

N00204.AR.005292
NAS PENSACOLA
5090.3a

SITE ASSESSMENT REPORT SITE 19 WITH TRANSMITTAL LETTER NAS PENSACOLA FL
2/19/1998
NAVY PUBLIC WORKS CENTER

**SITE ASSESSMENT REPORT
FDEP REGISTERED NUMBER 179202973**

**SITE 19
NAVAL AIR STATION
PENSACOLA, FLORIDA**

PREPARED BY:

**NAVY PUBLIC WORKS CENTER
BUILDING 458
PENSACOLA, FLORIDA 32508-6500**

**AUTHOR: GREG CAMPBELL, P.E.
FEBRUARY 1998**

PREPARED FOR:

**SOUTHERN DIVISION NAVAL FACILITIES ENGINEERING COMMAND
2155 EAGLE DR., P.O. BOX 190010
NORTH CHARLESTON, SOUTH CAROLINA 29418**

BYAS GLOVER, CODE 18410, ENGINEER-IN-CHARGE

**SITE ASSESSMENT REPORT
FDEP REGISTERED NUMBER 179202973**

**SITE 19
NAVAL AIR STATION
PENSACOLA, FLORIDA**

PREPARED BY:

**NAVY PUBLIC WORKS CENTER
BUILDING 458
PENSACOLA, FLORIDA 32508-6500**

**AUTHOR: GREG CAMPBELL, P.E.
FEBRUARY 1998**

PREPARED FOR:

**SOUTHERN DIVISION NAVAL FACILITIES ENGINEERING COMMAND
2155 EAGLE DR., P.O. BOX 190010
NORTH CHARLESTON, SOUTH CAROLINA 29418**

BYAS GLOVER, CODE 18410, ENGINEER-IN-CHARGE



DEPARTMENT OF THE NAVY

NAVY PUBLIC WORKS CENTER
310 JOHN TOWER ROAD
PENSACOLA, FLORIDA 32508-5303

IN REPLY REFER TO:

5090
Code 4231
Ser 1004
19 February 1998

Mr. John Mitchell
Remedial Project Manager
Florida Dept. Of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: SITE ASSESSMENT REPORT (SAR) - SITE 19, NAVAL AIR STATION,
PENSACOLA, FLORIDA. FDEP REGISTERED NUMBER 179202973.

Dear Mr. Mitchell:

Enclosed are two copies of the reference report for your action. If you have any questions, please contact Mr. Greg Campbell of my staff at (904) 452-4315 or 452-8587.

Sincerely,

KURT R. GIES
LT, CEC, USN
By direction of
the Commanding Officer

Enclosure: (2 copies)
(1) Site Assessment Report (SAR)
Site 19, Naval Air Station, Pensacola, Florida

Copy to:
SOUTHNAVFACENGCOM (Code 18410,
Byes Glover)
NAS Envir. Dept. (Dean Spencer,
Code 00500)

TABLE OF CONTENTS

Site Assessment Report Site 19 Naval Air Station Pensacola, Florida

Section	Title	Page No.
1.0	INTRODUCTION	
1.1	Purpose	1
1.2	Site Location and Area of Investigation	1
1.3	Site History and Operations	1
1.4	Initial Remedial Action	5
1.5	Results of Previous Investigations	5
1.6	Regional Geology and Hydrogeology	5
1.7	Well Survey	9
2.0	SITE ASSESSMENT	
2.1	Soil Boring and Monitoring Well Construction Details	9
2.2	Groundwater Flow Direction	13
2.3	Groundwater Flow Rate	13
2.4	Soil Assessment	16
2.5	Site Specific Geology and Hydrogeology	16
2.6	Surface Water Assessment	16
2.7	Groundwater Quality Assessment	23
3.0	CONCLUSIONS AND RECOMMENDATIONS	
3.1	Conclusions	27
3.2	Recommendations	33
4.0	PROFESSIONAL REVIEW CERTIFICATION	34
5.0	REFERENCES	35

APPENDICES

LIST OF FIGURES

**Site Assessment Report
Site 19
Naval Air Station
Pensacola, Florida**

Figure	Title	Page No.
1-1	Regional Location Map of Project	2
1-2	Site Location Map	3
1-3	Site Specific Map	4
2-1	Soil Boring Location Map	11
	Soil Borings SB-1 thru SB-30	
2-2	Monitoring Well Locations	12
	Monitoring Wells MW-1 thru DMW-20	
2-3	Groundwater Flow Direction Map	15
2-4A	Soil Contamination Distribution Map (Soil Borings)	21
2-4B	Soil Contamination Distribution Map (Monitoring Wells)	22
2-5	Benzene Contamination Distribution Map	25
2-6	Total VOAs Contamination Distribution Map	26
2-7	Total Naphthalene Contamination Distribution Map	29
2-8	TPH Contamination Distribution Map	31

LIST OF TABLES

**Site Assessment Report
Site 19
Naval Air Station
Pensacola, Florida**

Table	Title	Page No.
1-1	Summary of Volatile Organic Compounds Analytical Results for Groundwater Wells GM-16 thru GM-19	6
1-2	Construction Details of Water-Supply Wells 10	10
2-1	Top of Casing and Groundwater Elevations 14	14
2-2	Volatile Organic Compounds 17 Concentrations in Soil Samples from SB-1 thru SB-30 and Monitoring Wells MW-1 thru DMW-20	17
2-3	Summary of Volatile Organic Compounds 24 Analytical Results for Groundwater Samples from Monitoring Wells MW-1 thru DMW-20	24
2-4	Summary of PAHs 28 Analytical Results for Groundwater Samples from Monitoring Wells MW-1 thru DMW-20	28
2-5	Summary of TPH, Lead, and EDB 30 Analytical Results for Groundwater Samples Monitoring Wells MW-1 thru DMW-20	30

LIST OF APPENDICES

**Site Assessment Report
Site 19
Naval Air Station
Pensacola, Florida**

Appendices	Title
APPENDIX A:	Monitoring Well Construction Diagram
APPENDIX B:	Lithologic Logs
APPENDIX C:	Groundwater Flow Velocity Calculations
APPENDIX D:	Soil and Groundwater Analytical Results

1.0 INTRODUCTION

1.1 PURPOSE

The Navy Public Works Center, Naval Air Station, Pensacola, Florida, was retained by Southern Division Navy Facilities Engineering Command (SOUTHNAVFACENGCOM) to conduct a site assessment and remediation plan (if warranted) at the Fuel Farm Pipeline Leak Area, Site 19, Pensacola Naval Air Station (NASP), Pensacola, Florida in December 1994.

The site was originally listed under the Installation Restoration Program for NASP, but was removed from the list in July 1994 when only petroleum constituents were found at the site.

The findings and conclusions of the field investigation for the Site Assessment for Site 19 are presented herein.

1.2 SITE LOCATION AND AREA OF INVESTIGATION

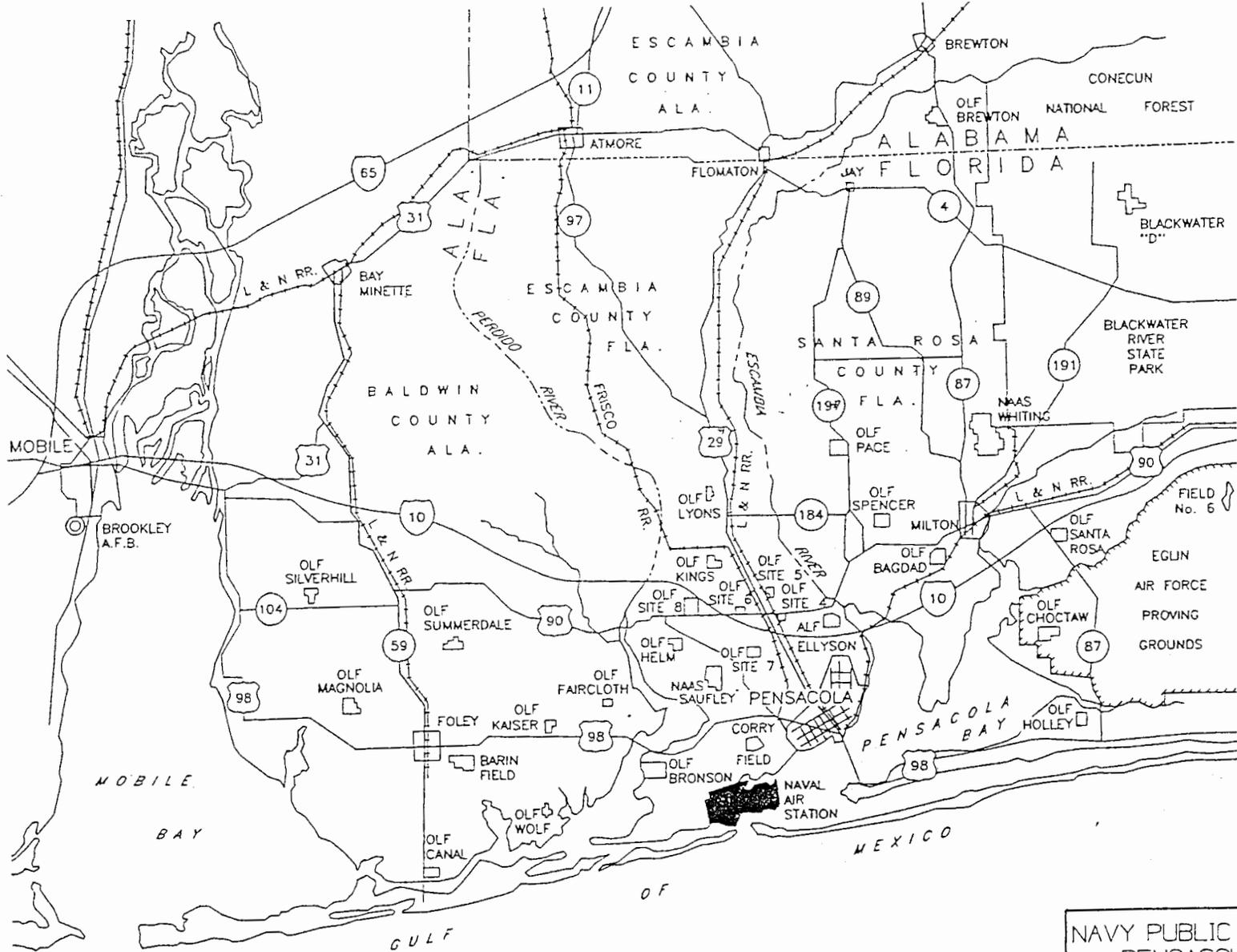
The Pensacola Naval Air Station (NASP) is approximately 5,800-acres and is located on a peninsula bounded on the east and south by Pensacola Bay and Big Lagoon and on the north by Bayou Grande (Figure 1-1). The Fuel Farm Pipeline Leak Area is located within the confines of NASP in Section 27, Range 31W, Township 3S. The site is located southwest of Forrest Sherman Field, approximately 1,300 feet west of the southern portion of aircraft runway 36 (see Figure 1-2). The pipeline leak occurred near the center of an aboveground section of dual pipeline, which runs between the fuel farm tanks and the tank truck loading facility at Forrest Sherman Field (Bldgs. 1879 and 1880).

The site is surrounded on all sides by scattered brush and woods. The site measures approximately 850 by 1,000 feet. Several jeep trails and unimproved roads transverse the site, one of which lies parallel to the aboveground pipeline. The site is generally flat. The only building located in the immediate site vicinity is a naval base pistol range, which is approximately 1,300 feet north of the site. Two ecologically sensitive marsh areas are located in the site area; one approximately 3,000 feet to the northwest and the second located 2,000 feet south of the site. Site location maps which show the site in relation to surrounding features are included as Figures 1-2 and 1-3.

1.3 SITE HISTORY AND OPERATIONS

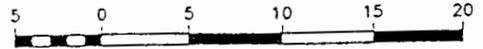
The fuel farm currently supplies JP-5 fuel for aircraft at Forrest Sherman Field via an underground/aboveground double pipeline. The Fuel Farm Pipeline Leak is reported to have occurred in 1958 when JP-4 fuel was supplied in lieu of JP-5 fuel. The amount of fuel initially discharged was not measured, but it was reported that more than 360,000 gallons of JP-4 fuel was discharged onto the ground at the site (NEESA 1983).

During the June 1983 Initial Assessment Study (IAS) conducted by the Naval Energy and Environmental Support Activity (NEESA), an investigation into the Fuel Farm Pipeline Leak

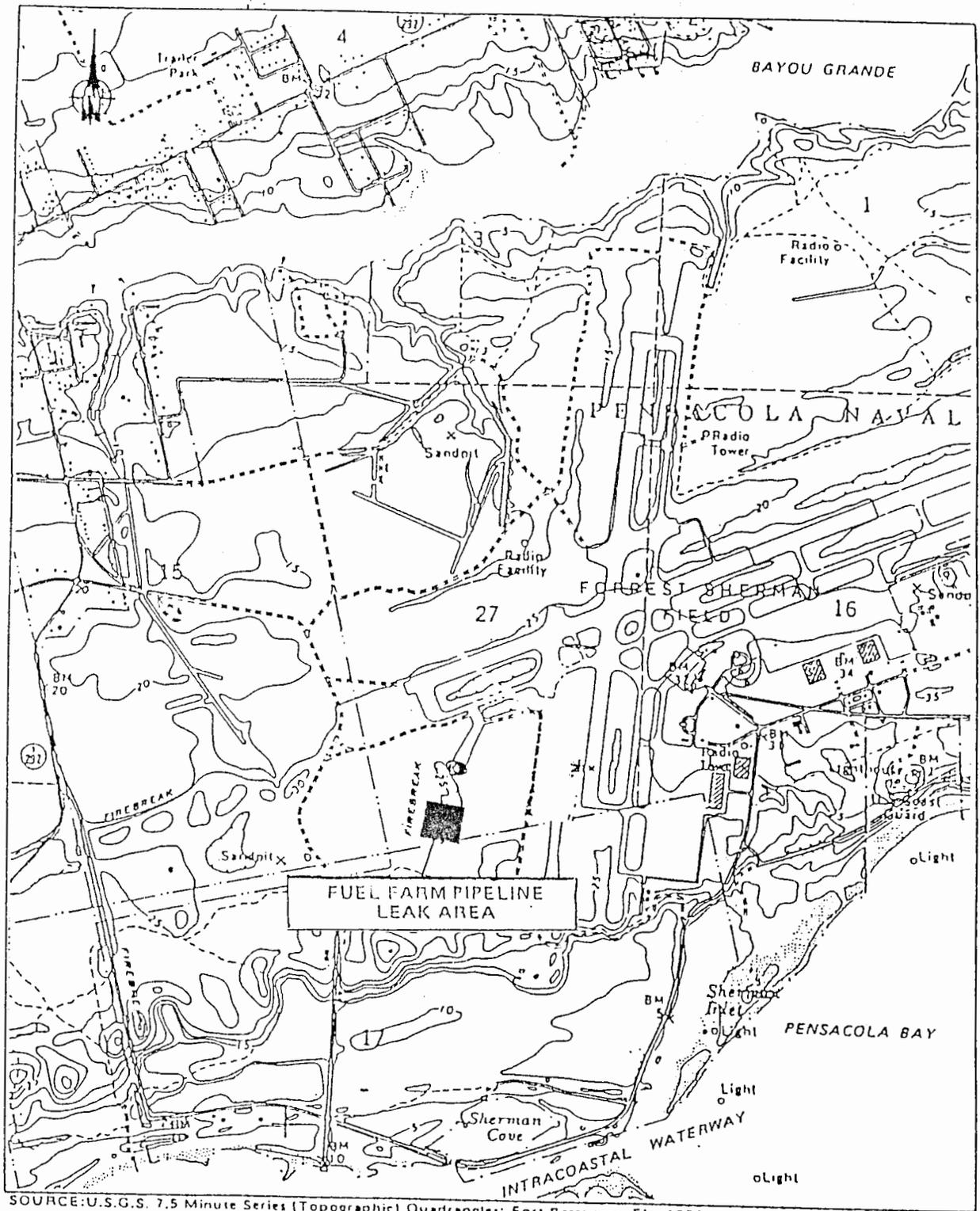


2

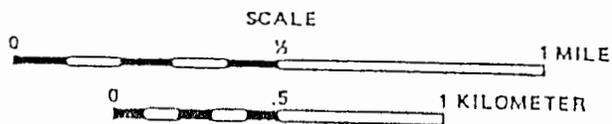
SCALE IN STATUTE MILES



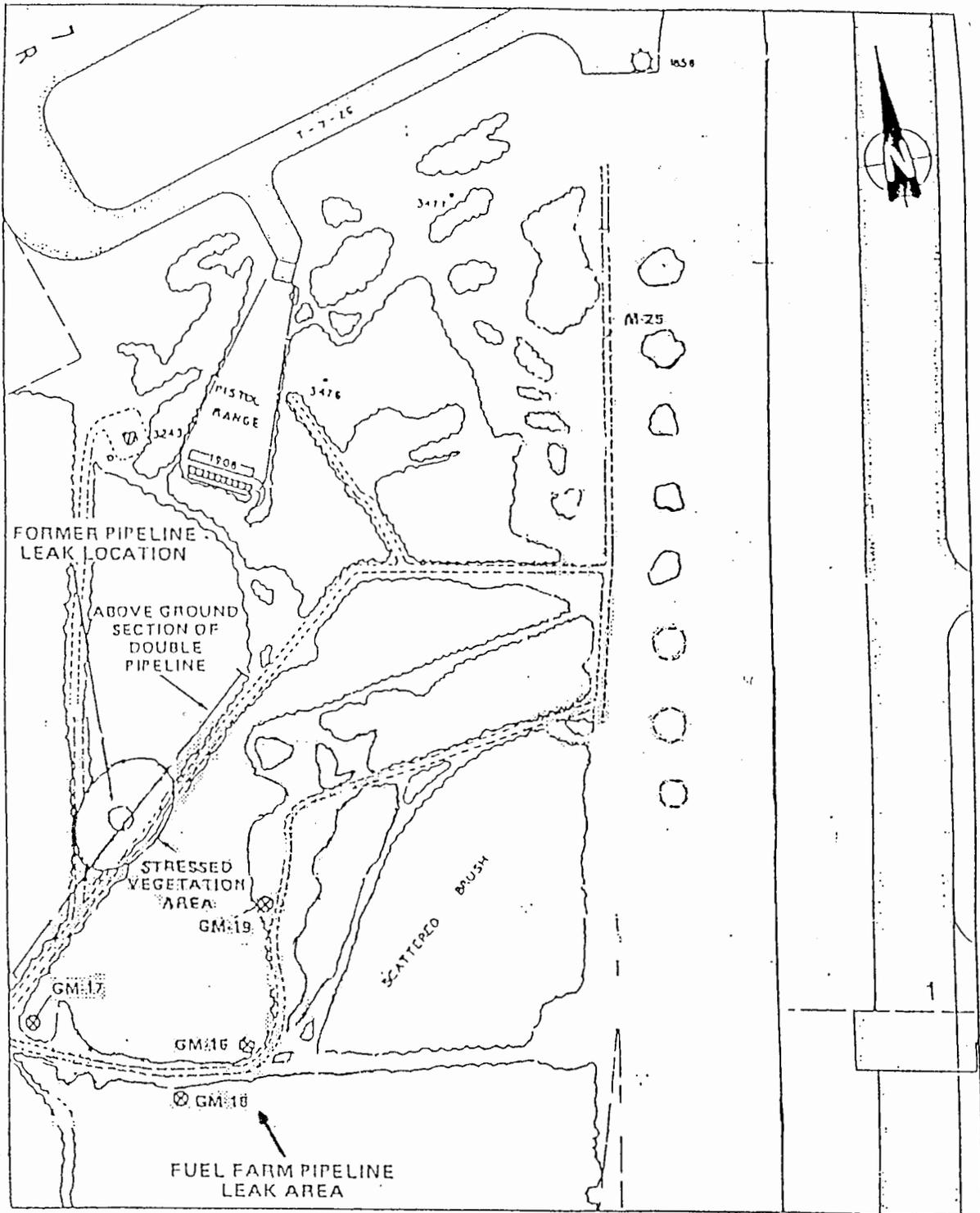
NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE: 1" = 10 MI	FIGURE 1-1	DRAWN BY: GAC
DATE: 10/18/84		DWG. NO: BORDER
		REVISED BY:
REGIONAL LOCATION MAP OF PROJECT		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT, NAS, PENSACOLA		



SOURCE: U.S.G.S. 7.5 Minute Series (Topographic) Quadrangles: Fort Barrancas, Fla. 1970 and West Pensacola, Fla. 1970, Photorevised 1987



NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE: 1" = 20'	FIGURE 1-2	GRAPH BY: GAC
DATE: 10/31/95		MAP NO: SITE
		REVISED BY:
Site Location Map- NAS Pensacola Fuel Farm Pipeline Leak Area		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT, NAS, PENSACOLA		



SOURCE: U.S. Naval Air Station, Pensacola, Florida, 1987; and Geraughty and Miller, 1986.

- KEY:
- ⊗ Existing Monitoring Well
 - ▨ Burn Areas
 - Possible Former Burn Area
 - Storm Drain Catch Basin

SCALE
0 200 400 600 800 FEET

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE: 1" = 20'	FIGURE 1-3	DRAWN BY: GAC
DATE: 10/31/95		REVISOR: SITE
Specific Site Location Map- NAS Pensacola Fuel Farm Pipeline Leak Area		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT, NAS, PENSACOLA		

(Site 19) was conducted. Investigation of Site 19 included a review of historical records, field inspections, and personnel interviews. NEESA concluded that further investigation at the site was warranted. The IAS recommended that an investigation be conducted regarding the possibility of free product floating on the groundwater at the site and that, if necessary, the feasibility of recovering this free product be determined (NEESA 1983).

1.4 INITIAL REMEDIAL ACTION

No initial remedial action was performed at the site.

1.5 RESULTS OF PREVIOUS INVESTIGATIONS

In 1984, Geraghty & Miller, Inc. (G&M) conducted a Verification Study to investigate the presence of free product floating on the groundwater table. During the verification study, G&M installed four shallow monitoring wells (GM-16, GM-17, GM-18, and GM-19) and completed 11 soil borings to investigate the possible presence of free product floating on the water table. The locations of the monitoring wells are depicted in Figure 1-3. Neither the monitoring wells nor the soil borings revealed the presence of free product; however, a fuel odor was detected in soil samples collected in the area of dead trees. No laboratory analyses were performed on either soil or groundwater samples during the Verification Study. G&M did not recommend further study of the site since the water table in the area is sometimes above land surface, and because it is highly probable the fuel had evaporated and biodegraded during the 25-year period prior to the study (G&M 1984). The Florida Department of Environmental Protection (FDEP) recommended further study of the site; therefore, the site was included in the list of sites to be investigated during the Characterization Study (G&M 1986).

In the 1986 Characterization Study, the four monitoring wells installed during the Verification Study were sampled and analyzed for the presence of benzene, toluene, and xylene (Table 1-1). Groundwater from monitoring wells GM-16, GM-18, and GM-19 was found to contain extremely high concentrations of benzene (422 ug/l, 30 ug/l, and 146 ug/l, respectively). No toluene was detected in any of the monitoring wells. Elevated concentrations of xylene were detected in wells GM-16 and GM-19 (818 ug/L and 577 ug/L, respectively) (G&M 1986).

1.6 REGIONAL GEOLOGY AND HYDROGEOLOGY

NASP is located in the Gulf Coastal Lowland Subdivision of the Coastal Plain Province physiographic division (Brooks 1981). NASP is located on a peninsula bounded on the east and south by Pensacola Bay and Big Lagoon and on the north by Bayou Grande. The most prominent topographic feature on the peninsula is an escarpment or bluff which parallels the southern and eastern shorelines and on which Fort Barrancas was built. Seaward of the escarpment is a nearly level marine terrace with surface elevations of approximately 5 feet above mean sea level (MSL). The central part of the peninsula, located landward of the escarpment, is a broad, gently rolling upland area with surface elevations up to 40 feet MSL (USGS 1970a, 1970b). Sandy soils occur throughout the NAS Pensacola area. As a result, most of the rainfall infiltrates directly into the subsurface. Consequently, there are few streams or surface water

TABLE 1-1
SUMMARY OF VOLATILE ORGANIC COMPOUNDS
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES
COLLECTED FROM MONITORING WELLS
GM-16, GM-17, GM-18, & GM-19
NAVAL AIR STATION PENSACOLA, SITE 19

PARAMETER	MONITORING WELL NUMBER			
	GM-16	GM-17	GM-18	GM-19
Benzene	422	BDL	30	146
Toluene	BDL	BDL	BDL	BDL
Xylenes (Total)	818	BDL	BDL	577
TOTAL VOA	1240	BDL	30	723

NOTES: BDL = Below detection limits
Groundwater samples from GM-16 thru GM-19 were collected during the
 Characterization Study (G&M 1986)
All results reported in parts per billion (ppb) unless otherwise noted.

bodies on the peninsula.

There are three principal hydrogeologic units of importance which underlie NASP. These are, in descending order, the Surficial Aquifer, the Intermediate System, and the Floridan Aquifer System.

The Surficial Aquifer occurs from land surface to a depth of approximately 300 feet at NASP and is composed of a sequence of unconsolidated to poorly indurated clastic deposits (Wagner *et al.* 1984). In this portion of Florida, the Surficial Aquifer constitutes an important source of water supply and is called the Sand-and-Gravel Aquifer (Southeastern Geological Society [SEGS] 1986). In the NASP vicinity, the Sand-and-Gravel Aquifer is made up of three zones based on contrasting permeabilities. These zones are referred to as the surficial zone, the low permeability zone, and the main producing zone (Wilkins *et al.* 1985).

The surficial zone is contiguous with land surface and contains groundwater under water table or perched water table conditions. The results of numerous borings conducted at NASP indicate that the surficial zone ranges in thickness between 40 and 70 feet and consists of tan and brown, fine to medium-grained quartz sand. Depth to the water table with the surficial zone is variable depending on location and ranges from less than 1 foot near surface water bodies to more than 20 feet in areas of higher elevation. Shallow groundwater in the surficial zone moves toward area of lower elevation and/or the nearest surface water body. Overall, the surficial zone has a high permeability (16 to 56 ft/day). Horizontal groundwater flow would generally be expected to be high.

The low permeability zone is underlying the surficial zone and is a zone of lower permeability sediments dominated by clay and silt-mixed material. At NASP this zone is generally composed of gray to blue, sandy, silty, slightly fossiliferous (shelly) clay and clayey sand ranging in thickness from 8 to 40 feet (G&M 1984, 1986). The result of laboratory permeability tests conducted on samples from this zone indicate that vertical hydraulic conductivities are low (4.2×10^{-5} to 9.9×10^{-2} ft/day). Few, if any, wells are open to the low permeability zone at NASP; thus, no information is available regarding groundwater flow direction.

The main producing zone is the bottom portion of the Sand-and-Gravel Aquifer and consists mainly of sand and gravel interbedded with thin beds of silt and clay. The depth at which the main producing zone is encountered is somewhat variable, ranging from 60 to approximately 120 feet below land surface (BLS) at NASP. This zone generally has the highest permeability characteristics due to thicker and more persistent sand and gravel beds and is tapped by most of the major wells in the Pensacola area (Wilkins *et al.* 1985). The thickness of the main producing zone can be highly variable; however, it is estimated to be up to about 100 feet at NASP. Insufficient data exist for wells open to the main producing zone at NASP to determine direction of groundwater flow within this zone; however, the flow direction is assumed to be generally southward under ambient conditions. Pumpage of the supply wells would locally cause groundwater in this zone to flow toward the wells. Considerable potential exists for vertical groundwater flow from the surficial to the main producing zone at this location. It is not known to what extent this potential exists elsewhere at NASP.

The low limit of the Sand-and-Gravel Aquifer coincides with the top of a regionally extensive and vertically persistent hydrogeologic unit of much lower permeability. This unit is referred to as the Intermediate System. In the vicinity of NASP, the top of the Intermediate System generally lies within the sediments termed Miocene Coarse Clastics or corresponds to the top of the Upper Member of the Pensacola Clay and occurs at a depth of approximately 300 feet (Wilkins et al. 1985). In general, the Intermediate System consists of fine-grained sediments and functions as an effective confining unit which retards the exchange of water between the overlying Sand-and-Gravel Aquifer and the underlying Floridan Aquifer System (SEGS 1986). The entire sequence is primarily poor to non-water bearing. In the NASP area, the Intermediate System is approximately 1,100 feet thick and is composed of the lower portion of the Miocene Coarse Clastics, the Upper Member of the Pensacola Clay, the Escambia Sand Member of the Pensacola clay, and the Lower Member of the Pensacola Clay; all are of Miocene Age.

Immediately underlying the Intermediate System and occurring at a depth of approximately 1,500 feet BLS at NASP is the Floridan Aquifer System. The Floridan Aquifer in this area is composed of the Middle to Lower Miocene Chickasawhay Limestone and undifferentiated Tampa State Limestone. Groundwater within the Floridan Aquifer in this area is highly mineralized and is not used for water supply (Wagner et al. 1984).

In the immediate vicinity of Site 19, the surficial zone of the Sand-and-Gravel Aquifer probably occurs to a depth of about 50 feet BLS. Although no deep borings have been completed in the immediate vicinity of either site, data from numerous borings completed at various sites on NASP indicate a general surficial zone thickness of approximately 50 feet. Furthermore, the surficial zone thickens toward the western portion of the base. G&M (1984) provides drilling logs for borings conducted on NASP prior to the Verification Study. Included in this report is information concerning a group of boring (boring group 10) which was completed approximately 0.75 miles east of Site 19. The lithologic description of cuttings from boring group 10 indicates that the surficial zone consists primarily of tan and brown, fine to medium-grained quartz sand. A total of 10 shallow monitoring wells, open to the surficial zone, have been installed during previous investigation at Site 19. These wells indicate that the water table generally occurs between 1 and 4 feet BLS. The water level data collected from wells located on Site 19 indicate groundwater flow direction in the surficial zone is to the south-southeast and the horizontal hydraulic gradient is approximately 0.004. Based on groundwater data collected at Site 19, G&M (1986) estimated a horizontal shallow ground-water flow velocity of 0.36 ft/day or 130 ft/yr.

Based on data collected from borings completed at other NASP locations, it is assumed that the low permeability zone of the Sand-and-Gravel Aquifer occurs at approximately 50 feet and extends to a depth of approximately 100 BLS (G&M 1984). Based on reported lithologic data from boring group 10 (G&M 1984), this zone would be expected to function as a confining or semiconfining unit restricting the flow of groundwater between the surficial zone and the main producing zone which underlies the unit. The direction of groundwater flow with the low permeability zone is unknown.

1.7 WELL SURVEY

Currently there are two potable water wells located at NASP that are permitted by the Northwest Florida Water Management District. Potable water to the base is mainly supplied by potable water wells located at Corry Station, located three miles to the north. The two potable water wells located at NASP are only used to supplement the potable water wells at Corry Station. NASP water supply wells (Wells No. 1 and No. 2) are located approximately 2.7 miles northeast and 3.0 miles northeast of Site 19, respectively. The supply wells were installed in 1942 to a depth open to the main producing zone. The wells yield, when in use, about 650 gpm, each. The depth to the static water level for supply well No. 1 and No. 2, in 1942, was approximately 32 feet and 38 feet, respectively. Well construction details are shown in Table 1-2.

2.0 SITE ASSESSMENT

2.1 SOIL BORING AND MONITORING WELL CONSTRUCTION DETAILS

Thirty soil borings (SB-1 thru SB-30), excluding monitoring well soil borings, were installed at the site on January 30 and February 13, 1997 by W.E.S., Inc. to a depth of approximately 2 feet below land surface (BLS). Soil samples were collected at depths of 1 and 2 feet BLS. The soil borings were installed using a stainless steel hand auger. The stainless steel hand auger was decontaminated between borings using liquanox soap, isopropyl alcohol, and distilled water. Soil boring cuttings were placed back into the boreholes upon completion of installation. Soil borings SB-1 thru SB-20 were initially installed in a grid pattern at approximately 50' apart on the road just south of the pipeline transect as shown in Figure 2-1. Soil borings SB-21 thru SB-30 were installed on the road south of soil borings SB-9 thru SB-20 to further delineate the soil contamination. Because the groundwater level was approximately at ground level south and north of the road, no soil borings were installed in these areas to further delineate soil contamination. Soil samples were also collected from each of the boreholes during the installation of shallow monitoring wells MW-1 thru MW-8 and deep monitoring well DMW-20. Soil samples were not collected from monitoring wells MW-9 thru MW-19 because the water table at their location was at ground level. Soil samples were collected at depths of 1 and 2 feet BLS. Each soil sample collected was analyzed for volatile organic vapors using an organic vapor analyzer (OVA) with a flame ionization detector. Location maps of the soil borings and monitoring wells are provided in Figures 2-1 and 2-2, respectfully. Monitoring well construction diagrams for monitoring wells MW-1 thru DMW-20 are shown in Appendix A. Lithological logs for monitoring wells MW-1 thru DMW-20 are shown in Appendix B.

Shallow groundwater monitoring wells MW-1 thru MW-19 and deep vertical extent monitoring well DMW-20 were installed at the site by W.E.S., Inc. personnel. Monitoring wells MW-1 thru MW-5 were installed on February 20, 1997; MW-6 thru MW-8 were installed March 26, 1997; MW-9 thru MW-13 were installed March 27, 1997; MW-14 thru MW-16 were installed April 8, 1997; MW-17 thru MW-19 were installed April 9, 1997; and DMW-20 was installed May 28, 1997.

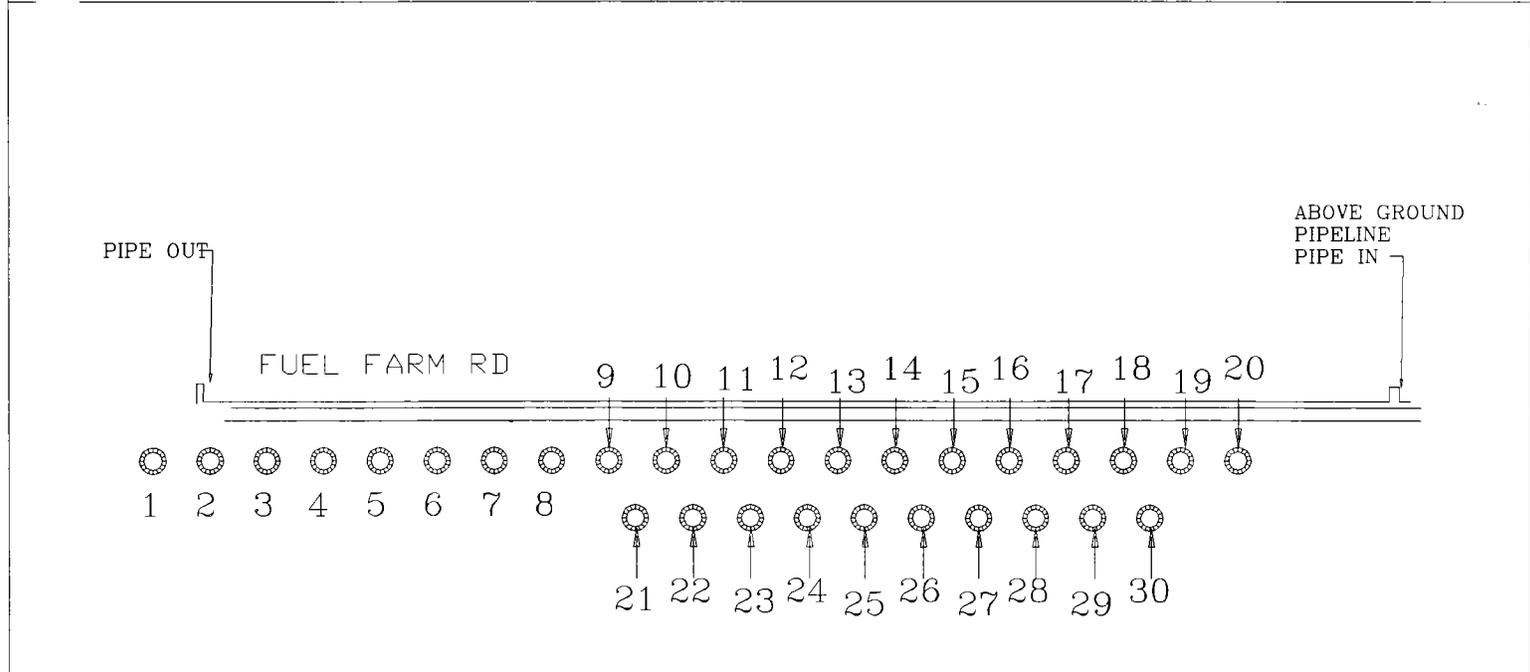
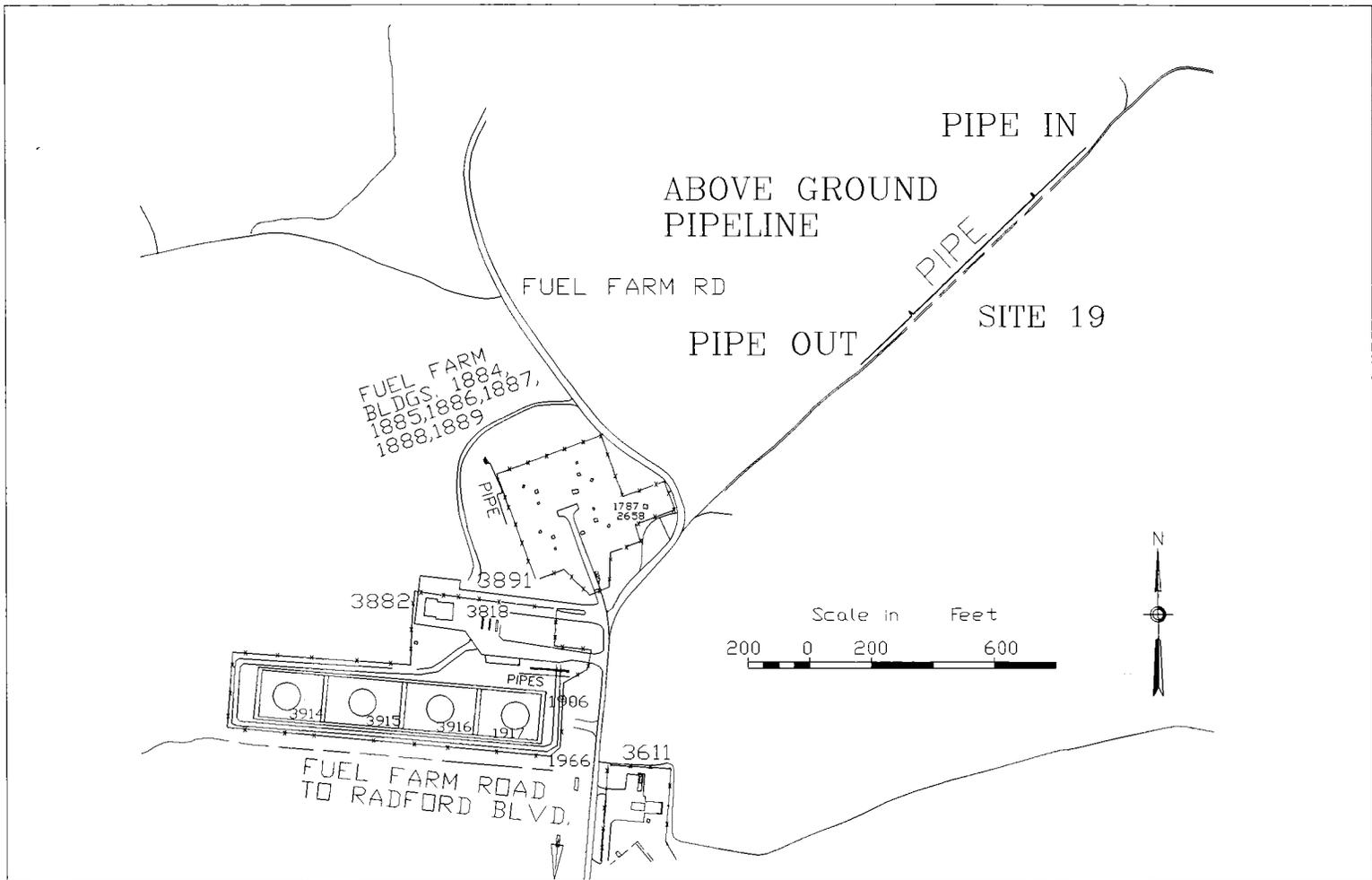
Shallow groundwater monitoring wells MW-1 thru MW-19 were installed to a depth of from 4.5'

TABLE 1-2

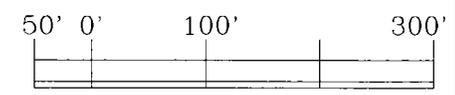
CONSTRUCTION DETAILS OF WATER-SUPPLY WELLS

NAVAL AIR STATION, PENSACOLA, FLORIDA GROUNDWATER WELL NUMBER	#1	#2
Year Drilled	1942	1942
Depth Drilled	174' x 6"	178'
Length, outside casing	106"	114"
Diameter, outside casing	24" x 100' 12" x 106'	24" x 110' 12" x 114'
Material, outside casing	Steel	Steel
Depth to static water level	23'	24'
Normal suction lift (wkng. level)	32'	38'
Normal yield, GPM	650	650
Test yield, GPM	u/k	u/k
Type of grout	Cement	Cement
Drilling method	Rotary	Rotary
Type of strainer	Bronze	Bronze
Depth to top of strainer	106'	114'
Protection from surface water?	Yes	Yes
Is inundation of well possible?	No	No
Sale intrusion noted in past?	No	No
Has the well ever been contaminated?	No	No
Pump manufacturers' name	Layne Bowler	Layne Bowler
Model number	RKLC	RKLC
Capacity GPM	750	750
Check valve present in line?	Yes	Yes
Date of last servicing	Routine Maint.	Routine Maint.
Maintenance schedule (day/mo.)	Daily	Daily

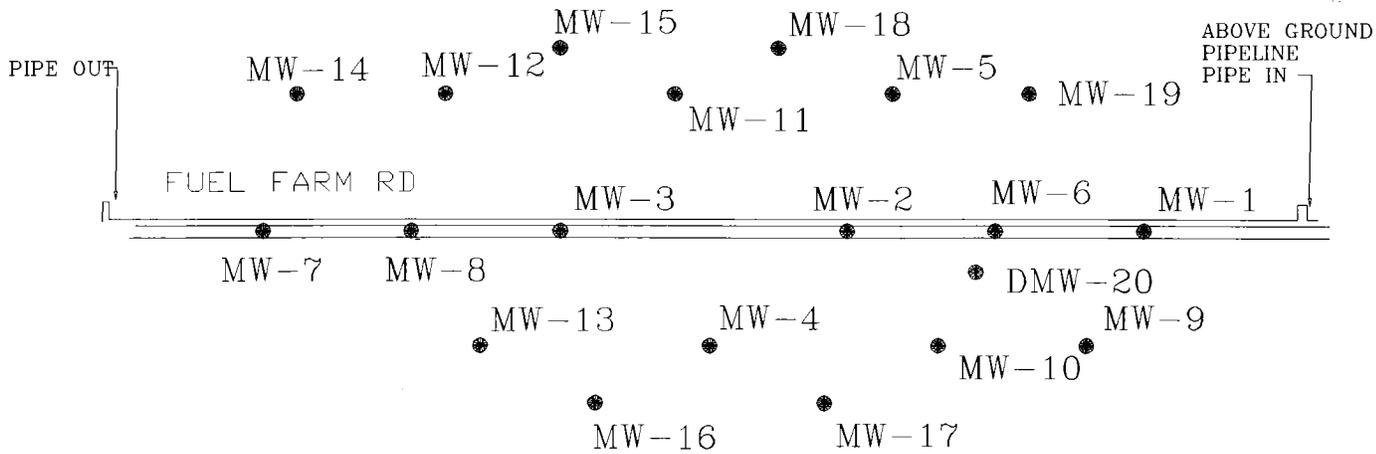
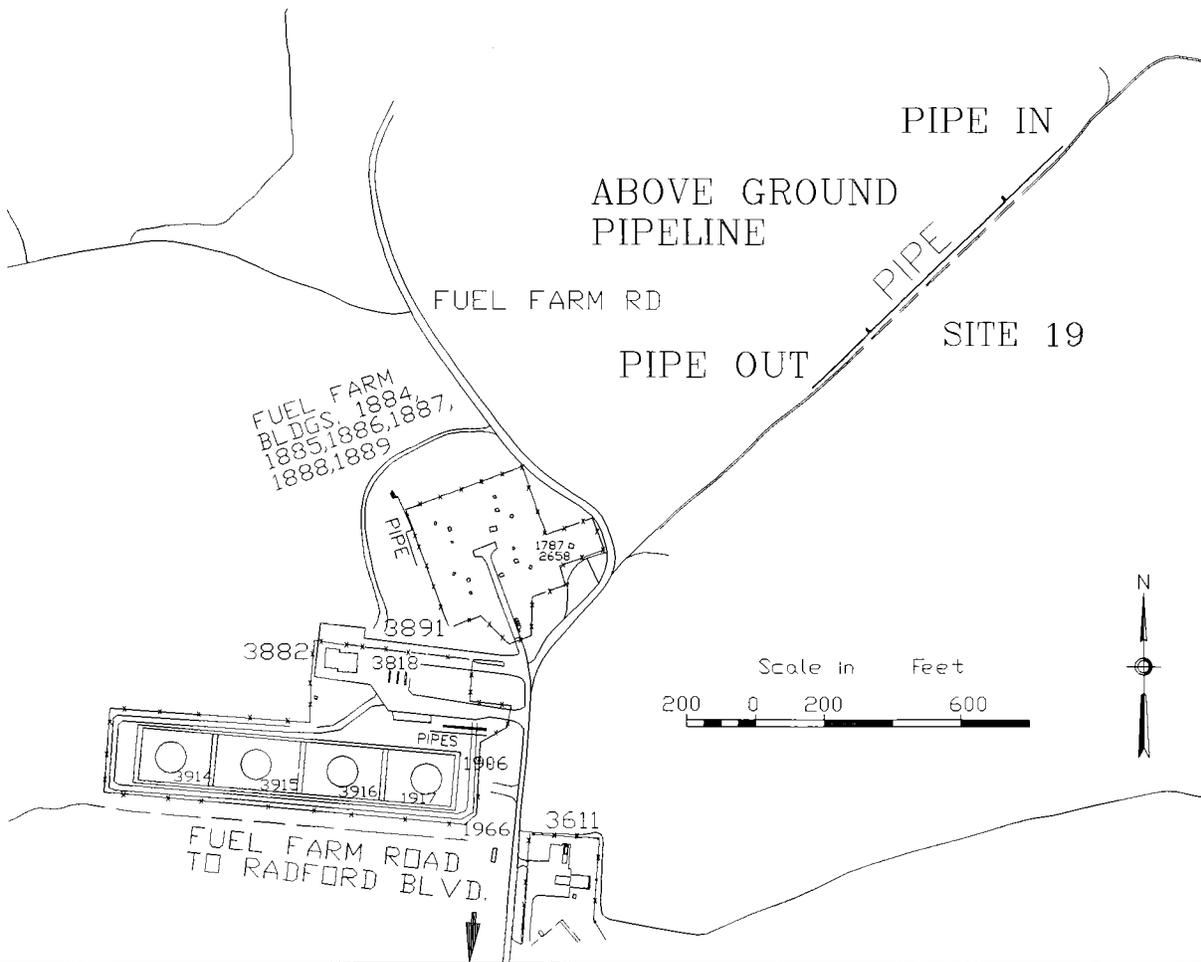
Notes: uk=unknown
s.s.=stainless



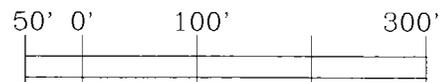
LEGEND	
	FENCE
	DIRT ROADWAY
	ABOVE GROUND PIPELINE
	MONITORING WELL NUMBER
	BORING HOLE NUMBER



NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE: DATE:	FIGURE 2-1	DRAWN BY: DWG. NO: REVISED BY:
FUEL FARM SOIL BORING MAP SITE 19, NAVAL AIR STATION PENSACOLA		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT, NAS PENSACOLA		



LEGEND	
	FENCE
	DIRT ROADWAY
	ABOVE GROUND PIPELINE
	MW-19 MONITORING WELL NUMBER
	BORING HOLE NUMBER 12



NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE: DATE:	FIGURE 2-2	DRAWN BY: DWG. NO: REVISED BY:
MONITORING WELL LOCATION MAP SITE 19, NAVAL AIR STATION PENSACOLA		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT, NAS PENSACOLA		

to 12.5' BLS depending on the groundwater depth. Monitoring wells (MW-1 thru MW-3, MW-6 thru MW-8, and DMW-20) were installed using a hollow stem auger with an inside diameter of 4 inches. The remaining shallow monitoring wells were installed using 4" diameter stainless steel hand augers because the monitoring well locations were inaccessible by drilling rigs. The shallow groundwater monitoring wells consist of 2-inch diameter by 3.5 feet to 10 feet of 0.0010-inch slotted schedule 40 PVC screen, threaded to between 0.5 feet and 3.0 feet of solid schedule 40 PVC riser. The filter sand pack for monitoring wells consisted of coarse silica sand with a mesh size of 20 to 30. The sand filter pack was placed in the annular space between the outside of the well screen and borehole from the bottom of the borehole to approximately 0.5 foot above the well screen. A 0.5 foot to 1.0 foot bentonite seal was placed above the sand pack with the remaining annular space filled with cement grout. Construction details of DMW-20 are identical to construction details of MW-1 thru MW-19 (outlined above) with the following exceptions: 24.5 feet in depth, 5.0 feet of 0.010-slotted Schedule 40 PVC pipe, 19.3 feet of solid PVC riser, and a 1 foot fine sand seal placed above the sand pack. Flush mounted manholes with 8" diameter manhole covers were installed around the top of the monitoring wells MW-1 thru MW-3, MW-6 thru MW-8, and DMW-20. A locking cap placed at the top of the monitoring wells completed the construction. The groundwater extracted during wells development was placed into steel 55 gallon drums and properly labeled for disposal. Plastic was placed under and on top of drill cuttings.

2.2 GROUNDWATER FLOW DIRECTION

The top of casing elevations for monitoring wells MW-1 thru DMW-20 were surveyed by W.E.S., Inc. on June 3, 1997. Survey benchmark is assumed elevation of 30.00 ft. at the Top of Casing Monitor Well No.2. Groundwater elevations for the groundwater level measurements taken on September 16, 1997 are shown in Table 2-1. A groundwater flow direction map for the groundwater level measurements taken on September 16, 1997 is shown in Figure 2-3. The groundwater flow direction map indicates the groundwater flow direction at the site to be toward the southwest.

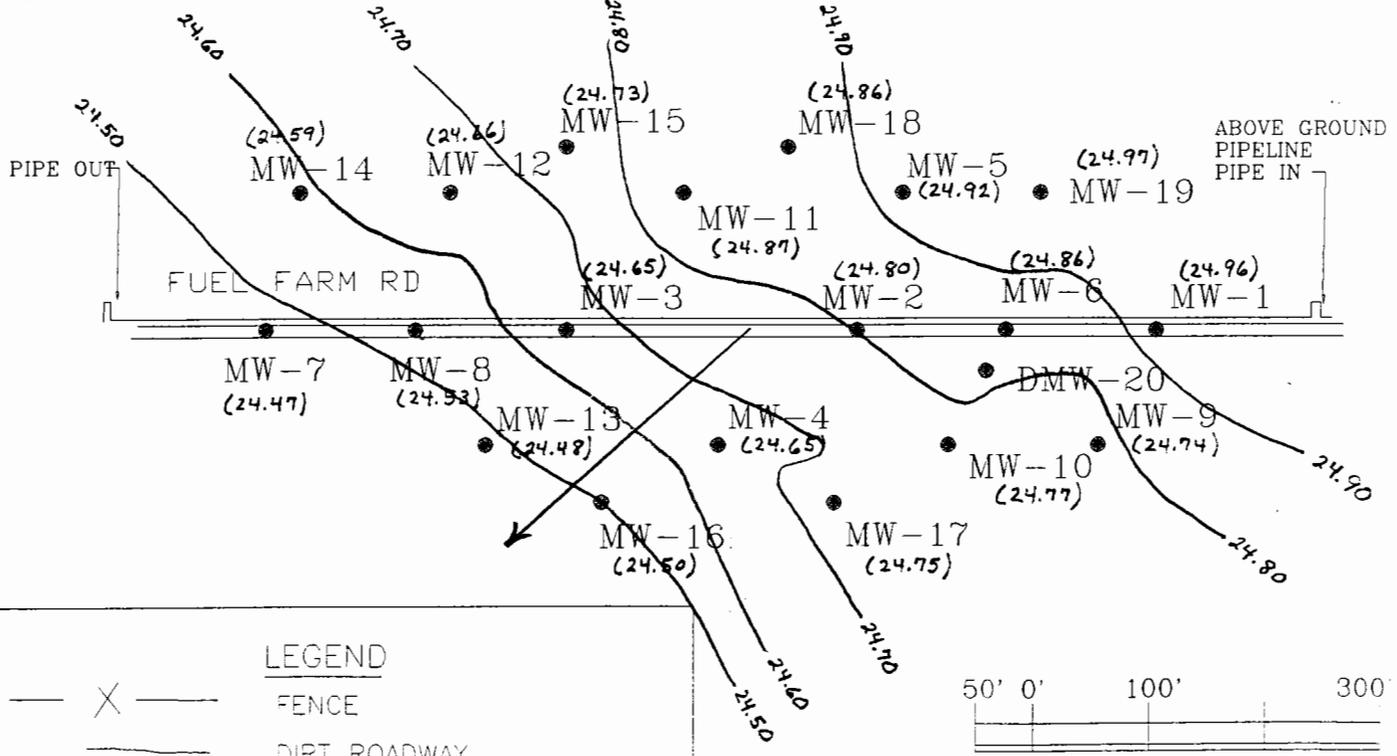
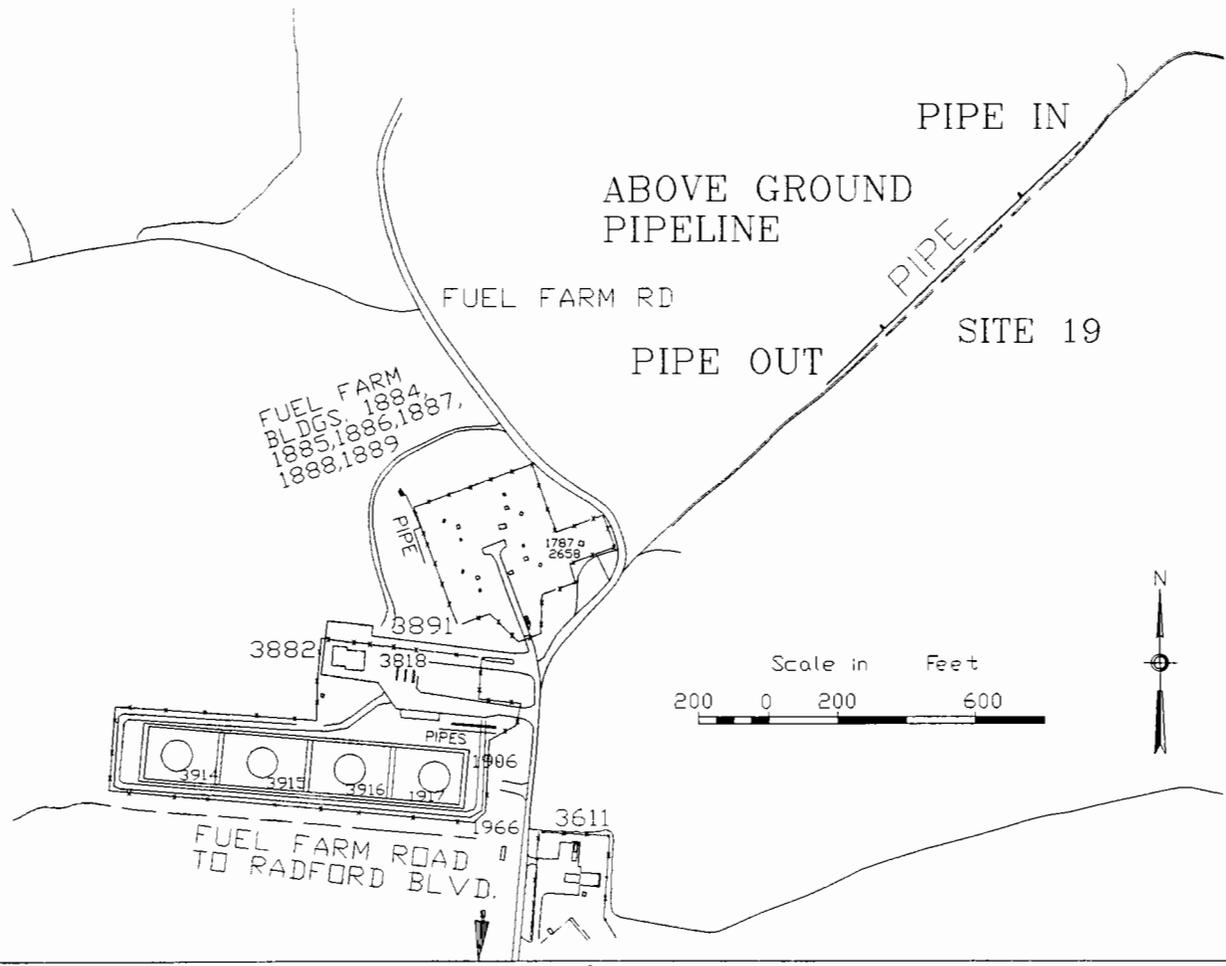
2.3 GROUNDWATER FLOW RATE

The horizontal groundwater flow velocity was calculated using the equation $V=Ki/n$. The horizontal hydraulic conductivity was calculated by taking the average of the hydraulic conductivities determined from slug tests performed during the preparation of three previous SARs performed at NAS Pensacola. The average horizontal conductivity of the three sites at NAS Pensacola was determined to be 48.3 feet/day (Campbell, 1995). A hydraulic gradient was calculated from the groundwater elevation data collected from groundwater monitoring wells MW-2 and MW-4 on August 16, 1997 which are parallel to the groundwater flow direction. The hydraulic gradient was determined to be 0.00095. The effective pore velocity of the site was assumed to be 25%. The average linear groundwater flow velocity at the site was determined to be 0.184 ft/day. The groundwater flow velocity assumptions and calculations are shown in Appendix C.

TABLE 2-1
TOP OF CASING AND GROUNDWATER ELEVATIONS
NAVAL AIR STATION PENSACOLA, SITE 19

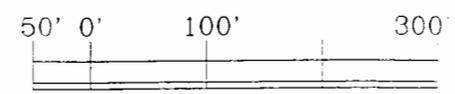
WELL NUMBER	TOC FT. M.S.L.	DTW (FT)	GROUNDWATER ELEVATION
		9/16/97	9/16/97
MW-1	29.39	4.43	24.96
MW-2	30.00	5.20	24.80
MW-3	30.38	5.73	24.65
MW-4	31.03	6.38	24.65
MW-5	31.02	6.10	24.92
MW-6	29.75	4.89	24.86
MW-7	30.18	5.71	24.47
MW-8	30.13	5.60	24.53
MW-9	31.13	6.39	24.74
MW-10	31.79	7.02	24.77
MW-11	31.00	6.13	24.87
MW-12	31.64	6.98	24.66
MW-13	30.56	6.08	24.48
MW-14	30.34	5.75	24.59
MW-15	30.49	5.76	24.73
MW-16	31.55	7.05	24.50
MW-17	31.86	7.11	24.75
MW-18	31.05	6.19	24.86
MW-19	31.21	6.24	24.97
DMW-20	29.73	NA	NA

NOTES: TOC = Top of Casing
DTW = Depth to Water
Benchmark assumes elevation of 30.00 ft. Top of Casing Monitoring Well No. 2.



LEGEND	
	FENCE
	DIRT ROADWAY
	ABOVE GROUND PIPELINE
	MW-19 (24.75) MONITORING WELL NUMBER GW ELEVATION
	24.70 GW CONTOUR
	GW FLOW DIRECTION

15



NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE: DATE:	FIGURE 2-3	DRAWN BY: DWG. NO: REVISED BY:
GW FLOW DIRECTION MAP SITE 19, NAVAL AIR STATION PENSACOLA CLIENT: NAS ENVIRONMENTAL DEPARTMENT, NAS PENSACOLA		

2.4 SOIL ASSESSMENT

The extent of soil contamination at the site was determined by installation of soil borings and OVA screening of soil samples. The soil borings were installed using a stainless steel auger. Soil samples were collected from each borehole at depths of 1' and 2' BLS. The investigation was initiated by the installation of twenty soil borings (SB-1 thru SB-20) on January 30, 1997. The soil borings, installed in a grid pattern with 50 feet spacing, were installed on the road just south and adjacent to the pipeline transect. Volatile organic compounds were detected in soil samples from soil borings SB-11 @ 2' (>1000 ppm); SB-12 @ 1' (230 ppm) @ 2' (405ppm); SB-13 @ 1' (30 ppm); SB-14 @ 2' (>1000 ppm); SB-15 @ 1' (150 ppm) @ 2' (750 ppm); SB-16 @ 1' (10 ppm) @ 2' (110 ppm); SB-17 @ 1' (850 ppm); and SB-18 @ 2' (950 ppm). Because VOC concentration levels exceeded 50 ppm in soil samples collected from soil borings SB-11 (>1000 ppm), SB-12 (230 ppm & 405 ppm), SB-14 (>1000ppm), SB-15 (750 ppm), SB-17 (850 ppm), and SB-18 (950 ppm), ten additional soil borings (SB-21 thru SB-30) were installed at 50 foot intervals to the south-southeast of, and parallel to, soil borings SB-8 thru SB-18 on February 13, 1997. No volatile organic vapors were detected in the soil samples collected from soil borings SB-21 thru SB-30 with the exception of SB-23 (1') which detected volatile organic vapors at 33 ppm.

In addition to the hand auger soil borings, soil samples were collected during the installation of monitoring wells MW-1 thru MW-8 and DMW-20. Soil samples were collected from these boreholes at 1 and 2 feet BLS. No volatile organic vapors were detected in any of the soil samples collected from monitoring wells MW-1 thru MW-8 or DMW-20 with the exception of MW-4 (1') which detected volatile organic vapors at 23 ppm. No soil samples were collected from monitoring wells MW-9 thru MW-19 because the water table at those sites was at ground level. The location of the soil borings is provided in Figure 2-1 and the summary of the OVA screening results is provided in Table 2-2. A soil contamination distribution map is included in Figure 2-4.

2.5 SITE SPECIFIC GEOLOGY AND HYDROGEOLOGY

The principal aquifer of concern at the site is the surficial zone of the Sand-and-Gravel Aquifer. The surficial zone was penetrated to at depth of 25 feet during this investigation. The lithology at the site was found to be consistent and is generally composed of (1) medium brown, silty sand mixed with shell fill from 0 to 1 foot BLS, (2) dark black silty sand with humus/decayed organic matter from 1 to 2 feet BLS, (3) dark black silty sand with humus/decayed organic matter from 2 to 15 feet BLS, (4) cohesive, organic lense of peat from 15 to 18 feet BLS and (5) reddish brown, silty, fine sand from 18 to 25 feet BLS. The groundwater table at the site was encountered between ground level and 3 feet BLS. Lithological logs describing the soils encountered at various depth, the approximate groundwater level, and OVA screening results for the soil borings installed during monitoring well installation are shown in Appendix B.

2.6 SURFACE WATER ASSESSMENT

No surface water was observed at the site and therefore no surface water assessment was

Table 2-2
Volatile Organic Compounds (VOCs)
Concentrations in Soil
Soil Samples From SB-1 thru SB-30
and MW-1 thru DMW-20
Naval Air Station Pensacola
Site 19, Fuel Farm Pipeline Leak

Boring Designation	Depth (Feet BLS)	VOCs Concentration (ppm) ¹
SB-1	1'	0
	2'	0
SB-2	1'	0
	2'	0
SB-3	1'	0
	2'	0
SB-4	1'	0
	2'	0
SB-5	1'	0
	2'	0
SB-6	1'	0
	2'	0
SB-7	1'	0
	2'	0
SB-8	1'	0
	2'	0
SB-9	1'	0
	2'	0
SB-10	1'	0
	2'	0
SB-11	1'	0
	2'	>1000
SB-12	1'	230
	2'	405
SB-13	1'	30
	2'	0

¹ VOCs concentrations assessed by organic vapor analyzer headspace techniques.
Notes: BLS = below land surface
ppm = parts per million
NS = not sampled
Soil samples analyzed and VOC results reported by W.E.S., Inc.

Table 2-2 (Cont.)

Boring Designation	Depth (Feet BLS)	VOCs Concentration (ppm)¹
SB-14	1'	0
	2'	>1000
SB-15	1'	150
	2'	750
SB-16	1'	10
	2'	110
SB-17	1'	850
	2'	0
SB-18	1'	0
	2'	950
SB-19	1'	0
	2'	0
SB-20	1'	0
	2'	0
SB-21	1'	0
	2'	0
SB-22	1'	0
	2'	0
SB-23	1'	33
	2'	0
SB-24	1'	0
	2'	0
SB-25	1'	0
	2'	0
SB-26	1'	0
	2'	0
SB-27	1'	0
	2'	0
SB-28	1'	0
	2'	0
SB-29	1'	0
	2'	0

¹ VOCs concentrations assessed by organic vapor analyzer headspace techniques.

Notes: BLS = below land surface

ppm = parts per million

NS = not sampled

Soil samples analyzed and VOC results reported by W.E.S., Inc.

Table 2-2 (Cont.)

Boring Designation	Depth (Feet BLS)	VOCs Concentration (ppm) ¹
SB-30	1'	0
	2'	0

¹ VOCs concentrations assessed by organic vapor analyzer headspace techniques.

Notes: BLS = below land surface

ppm = parts per million

NS = not sampled

Soil samples analyzed and VOC results reported by W.E.S., Inc.

Table 2-2 (Cont.)

Boring Designation	Depth (Feet BLS)	VOCs Concentration (ppm) ¹
MW-1	1'	0
	2'	0
MW-2	1'	0
	2'	0
MW-3	1'	0
	2'	0
MW-4	1'	21
MW-5	1'	0
MW-6	1'	0
	2'	0
MW-7	1'	0
	2'	0
MW-8	1'	0
	2'	0
MW-9	NS	NS
MW-10	NS	NS
MW-11	NS	NS
MW-12	NS	NS
MW-13	NS	NS
MW-14	NS	NS
MW-15	NS	NS
MW-16	NS	NS
MW-17	NS	NS
MW-18	NS	NS
MW-19	NS	NS
DMW-20	1'	0

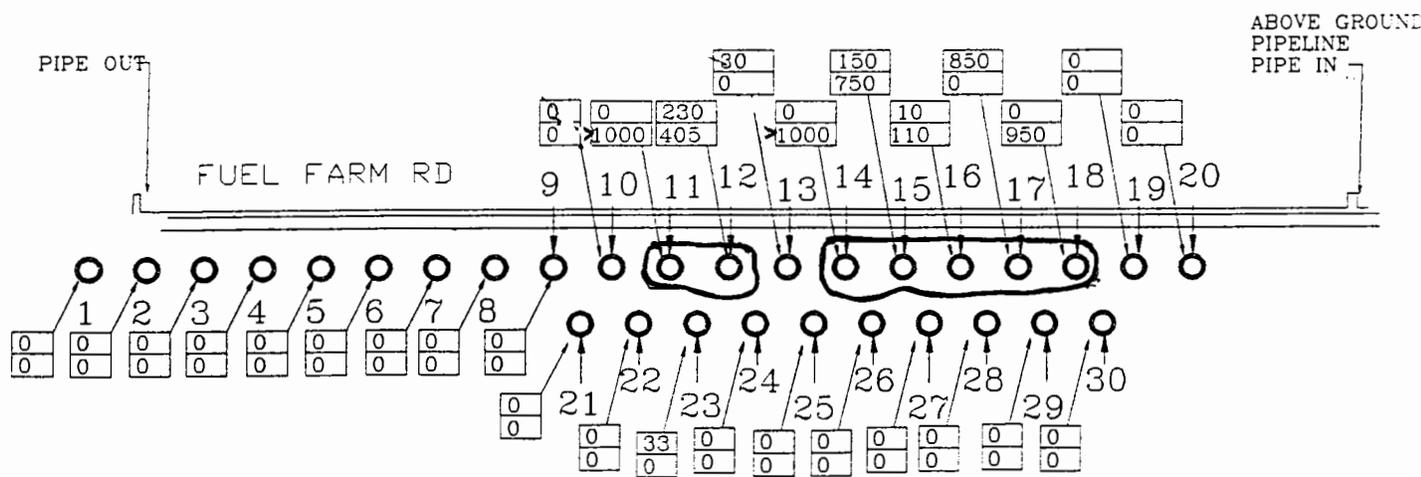
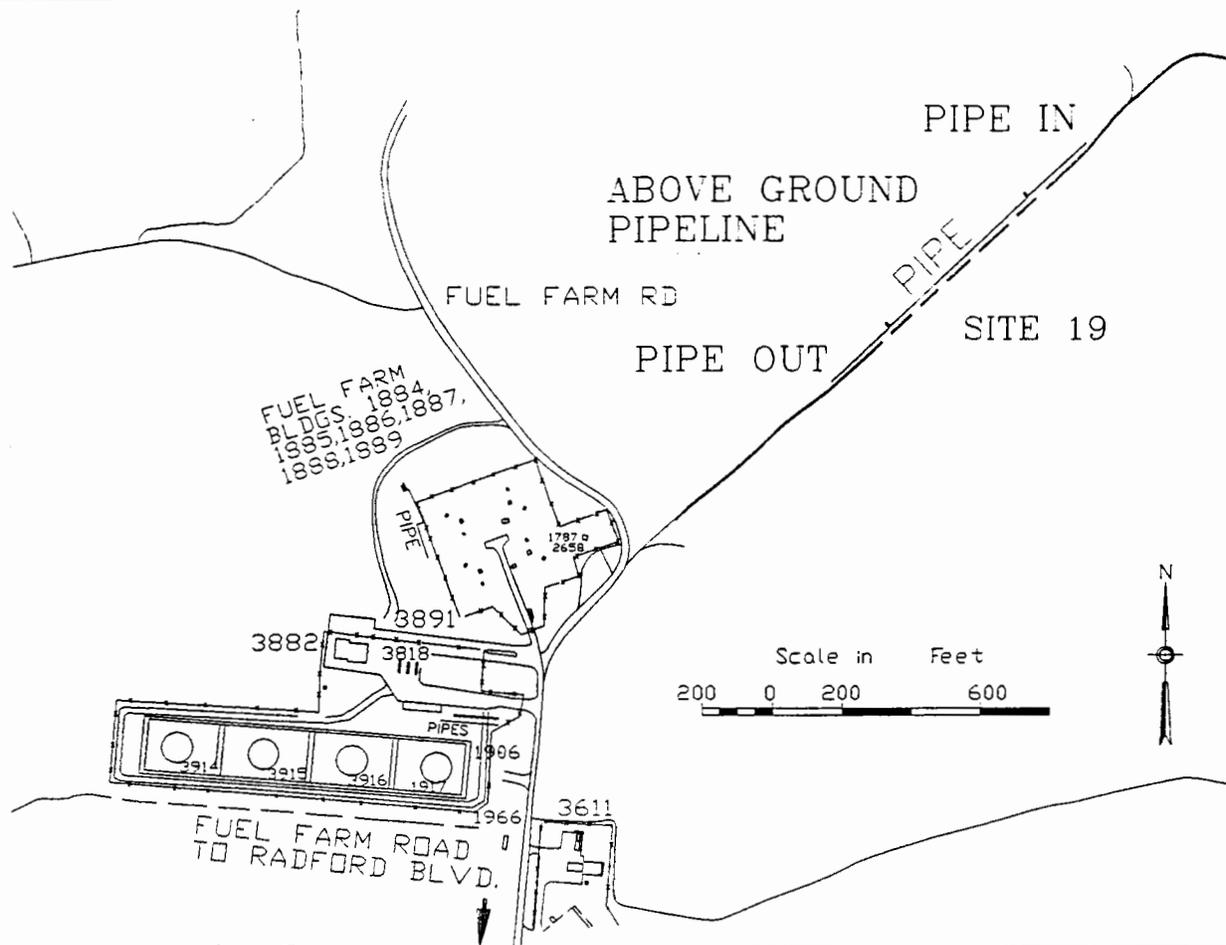
¹ VOCs concentrations assessed by organic vapor analyzer headspace techniques.

Notes: BLS = below land surface

ppm = parts per million

NS = not sampled

Soil samples analyzed and VOC results reported by W.E.S., Inc.



LEGEND

16 ○ MONITORING WELL NUMBER

○ BORING HOLE NUMBER

B1 THRU B18 AND MW-1 THRU MW-8

0 OVA READING @ BORING DEPTH 1'

0 OVA READING @ BORING DEPTH 2'

NS NO SAMPLE COLLECTED

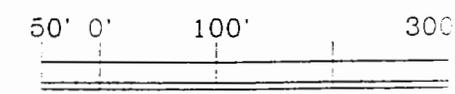
— ISOCOCONCENTRATION LINE

- X - FENCE

VOCS = (PARTS PER MILLION)50 PPM

— DIRT ROADWAY

— ABOVE GROUND PIPELINE

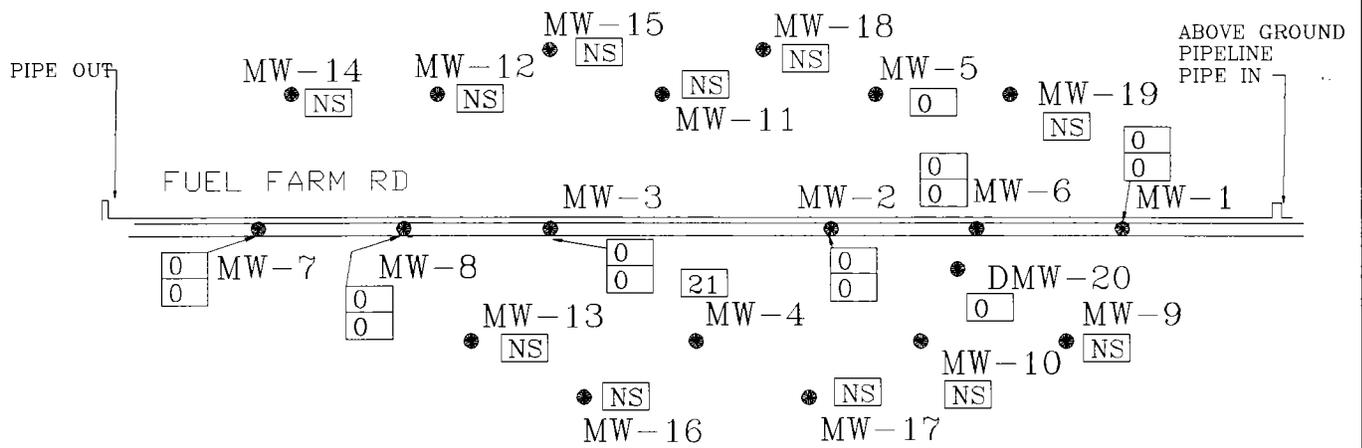
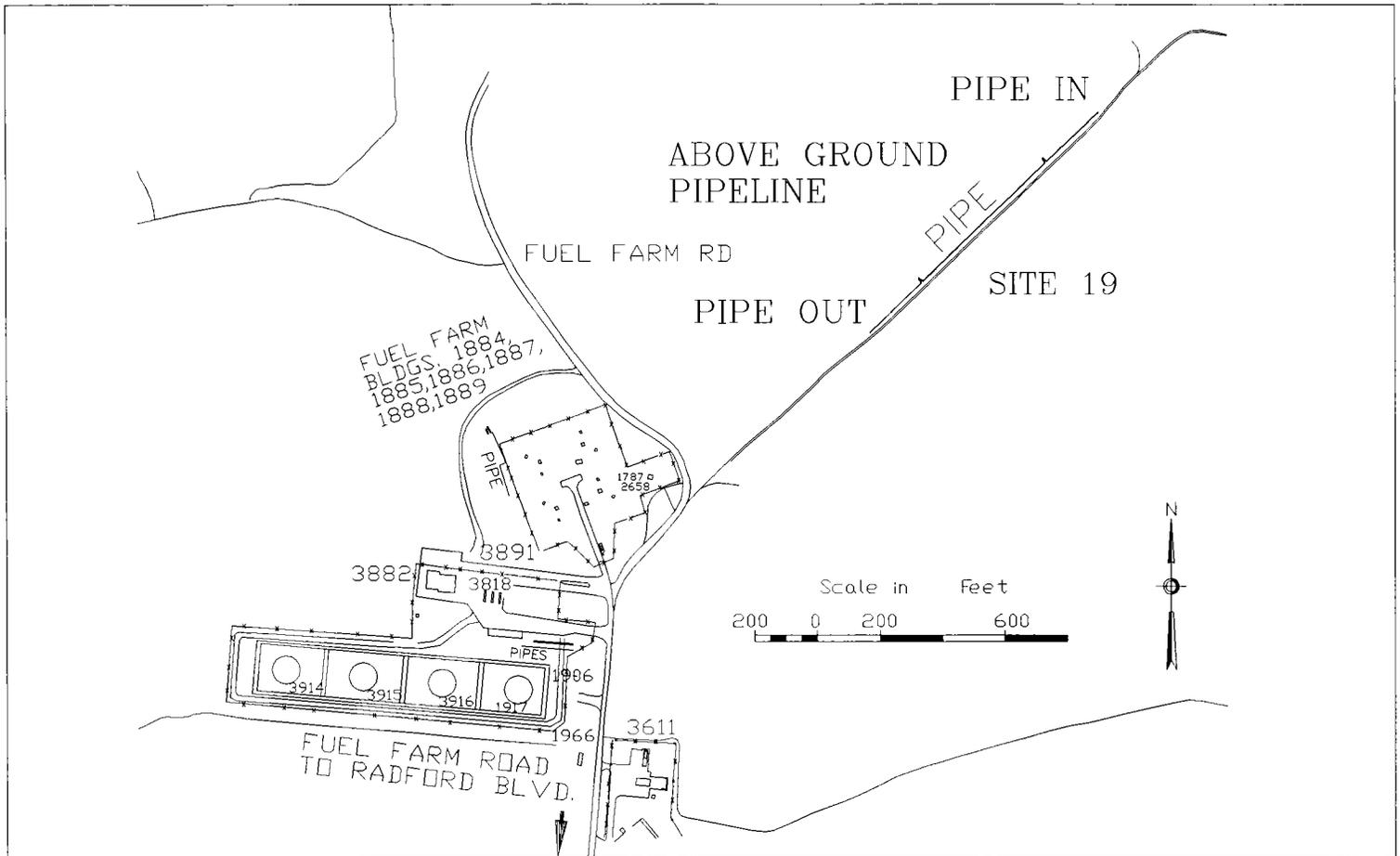


NAVY PUBLIC WORKS CENTER
PENSACOLA, FLORIDA

SCALE:	FIGURE	DRAWN BY:
DATE:	2-4A	DWG. NO:
		REVISED BY:

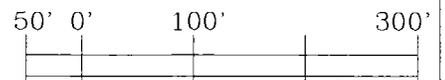
FUEL FARM SOIL CONTAMINATION MAP
SITE 19, NAVAL AIR STATION PENSACOLA

CLIENT: NAS ENVIRONMENTAL DEPARTMENT, NAS PENSACOLA



LEGEND

- MW-2 ● MONITORING WELL NUMBER
- BORING HOLE NUMBER
- B1 THRU B18 AND MW-1 THRU MW-8
- 0 OVA READING @ BORING DEPTH 1'
- 0 OVA READING @ BORING DEPTH 2'
- NS NO SAMPLE COLLECTED
- 50' ISOCENTRATION LINE
- X FENCE
- VOCS = (PARTS PER MILLION)50 PPM
- DIRT ROADWAY
- ABOVE GROUND PIPELINE



NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE: DATE:	FIGURE 2-4B	DRAWN BY: DWG. NO. REVISED BY:
FUEL FARM SOIL CONTAMINATION MAP SITE 19, NAVAL AIR STATION PENSACOLA		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT, NAS PENSACOLA		

performed for this report. Sherman Cove, the nearest surface water body to the site, is located approximately 3150 feet southeast of the site.

2.7 GROUNDWATER QUALITY ASSESSMENT

Groundwater samples were extracted from shallow groundwater monitoring wells MW-1 thru MW-19 and deep vertical extent monitoring well DMW-20 by W.E.S., Inc. personnel using the methods and procedures outlined in their Comprehensive Quality Assurance Plan No. 900465G. The groundwater samples were analyzed by NPWC laboratory using the method and procedures outlined in PWC's Comprehensive Quality Assurance Plan No. 920121G. The groundwater samples were collected on February 26, March 28, April 15, and May 29, 1997. The locations of the groundwater monitoring wells are shown in Figure 2-2. Groundwater samples were analyzed for volatile organic aromatics (VOAs), polynuclear aromatic hydrocarbons (PAHs), ethylene dibromide (EDB) and TPH using EPA methods 8260, 8270, 504 and FLPRO, respectively. Groundwater samples were collected from monitoring wells MW-1 thru DMW-20 on September 16 & 19, 1997 by PWC personnel using quiescent sampling technique in accordance with the methods and procedures outlined in their Comprehensive Quality Assurance Plan (CompQAP). The groundwater samples were analyzed for total lead using EPA method SW6010A. The analytical laboratory results are found in Appendix D.

The groundwater quality assessment was initiated by the installation of five shallow monitoring wells MW-1 thru MW-5 on February 20, 1997. The placement of the initial groundwater monitoring wells was dictated by the soil assessments performed at the site. The placement of shallow monitoring wells MW-6 thru MW-19 was required to further define the horizontal extent of groundwater contamination.

No VOAs were detected in the groundwater samples collected from monitoring wells MW-1, MW-5, MW-9, MW-10, MW-12, MW-14, MW-15, MW-16, MW-18 or MW-19. Benzene was detected in the groundwater samples collected from monitoring wells MW-2, MW-3, MW-4, MW-6, MW-8, MW-11, and DMW-20 at concentrations of 180 ppb, 1200 ppb, 17 ppb, 370 ppb, 1300 ppb, 170 ppb, and 3 ppb, respectively, which exceed the FDEP regulatory limits of 1 ppb for benzene. Total VOAs detected in the groundwater samples collected from monitoring wells MW-2, MW-3, MW-4, MW-6, MW-7, MW-8, MW-11, MW-13, MW-17, and DMW-20 was at concentrations of 4030 ppb, 8860 ppb, 1226 ppb, 6470 ppb, 7 ppb, 7250 ppb, 9470 ppb, 2 ppb, 1 ppb, and 69 ppb, respectively. The levels of total VOAs detected in monitoring wells MW-2, MW-3, MW-4, MW-6, MW-8, MW-11, and DMW-20 exceed the FDEP regulatory limits of 50 ppb for total VOAs. Bromodichloromethane was detected in the groundwater sample collected from monitoring well MW-11 at a concentration of 3 ppb which is below the FDEP guidance concentration of 90 ppb. A summary table of the VOAs detected in the monitoring wells is shown in Table 2-3. A benzene contamination distribution map is included as Figure 2-5. A total VOAs contamination distribution map is included as Figure 2-6.

No PAHs were detected in the groundwater samples collected from monitoring wells MW-1, MW-5, MW-7, MW-9, MW-10, or MW-12 thru MW-19. Total naphthalenes were detected in the groundwater samples collected from monitoring wells MW-2, MW-3, MW-4, MW-6, MW-8,

TABLE 2-3
SUMMARY OF VOLATILE ORGANIC COMPOUNDS
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES
COLLECTED FROM MONITORING WELLS MW-1 THRU DMW-20
NAVAL AIR STATION PENSACOLA, SITE 19

PARAMETER	MONITORING WELL NUMBER									
	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10
Bromodichloromethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzene	BDL	180	1200	17	BDL	370	BDL	1300	BDL	BDL
Toluene	BDL	390	2400	240	BDL	270	BDL	3500	BDL	BDL
Ethylbenzene	BDL	390	560	99	BDL	630	3	450	BDL	BDL
Xylenes (Total)	BDL	3070	4700	870	BDL	5200	4	2000	BDL	BDL
TOTAL BTEX	BDL	4030	8860	1226	BDL	6470	7	7250	BDL	BDL

24

PARAMETER	MONITORING WELL NUMBER									
	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	DMW-20
Bromodichloromethane	3	BDL								
Benzene	170	BDL	3							
Toluene	2100	BDL	2	BDL	BDL	BDL	1	BDL	BDL	BDL
Ethylbenzene	500	BDL	6							
Xylenes (Total)	6700	BDL	60							
TOTAL BTEX		BDL	BDL	BDL	BDL	BDL	1	BDL	BDL	69

NOTES:

Groundwater samples collected on dates indicated above.

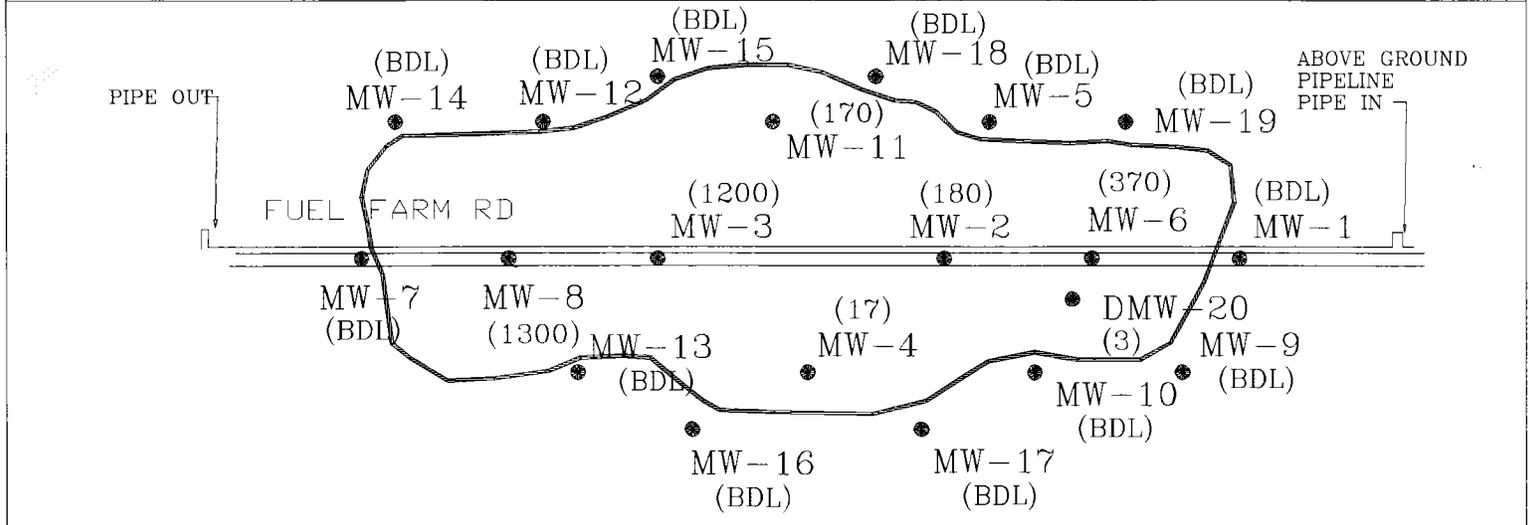
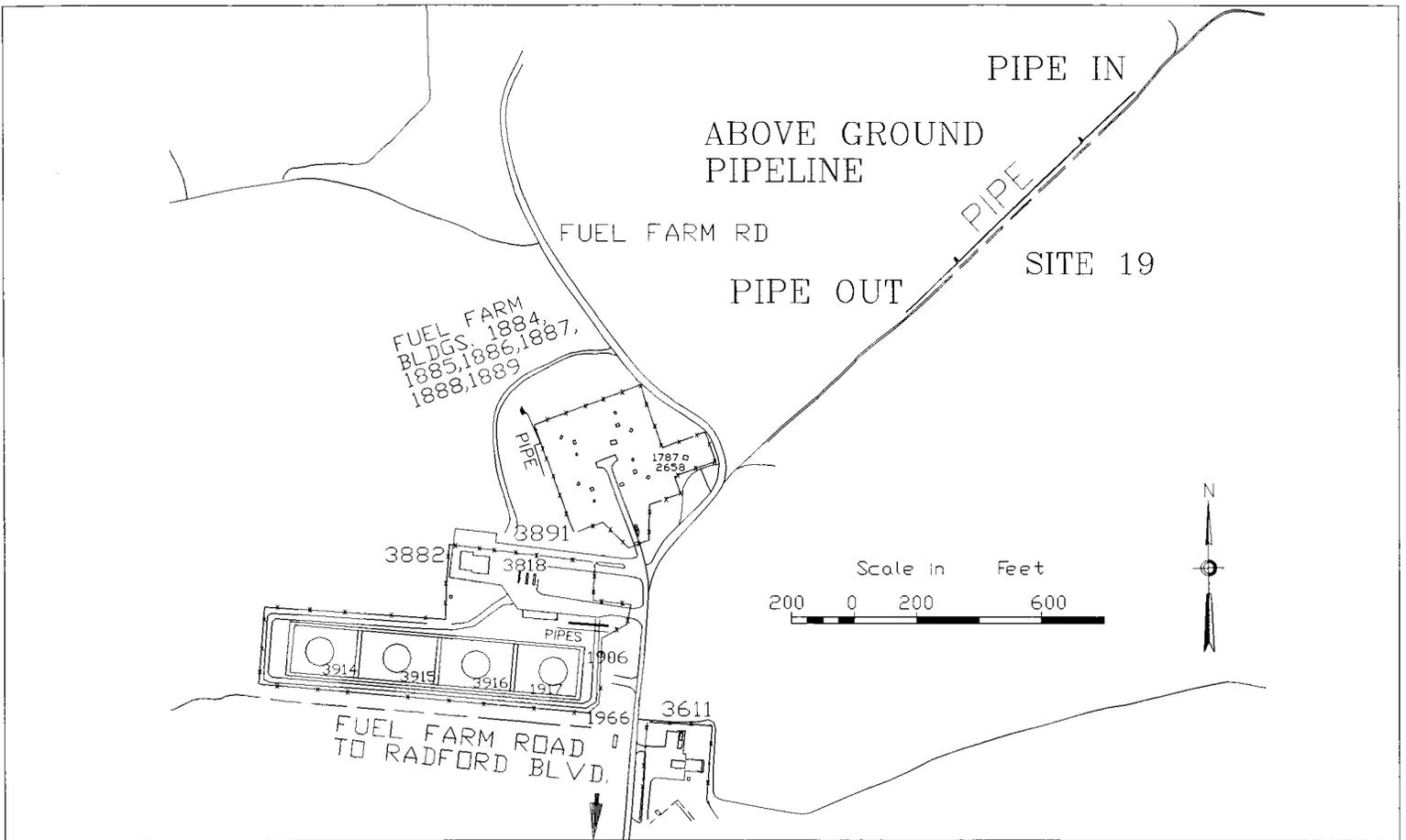
All results reported in parts per billion (ppb) unless otherwise noted.

BDL = Below detection limits

Total BTEX = Summation of benzene, toluene, ethylbenzene and xylenes (total)

Groundwater samples collected from MW-1 thru MW-5 2/26/97. Groundwater samples collected from MW-6 thru MW-13 3/28/97.

Groundwater samples collected from MW-14 thru MW-19 4/15/97. Groundwater samples collected from DMW-20 5/29/97.



LEGEND

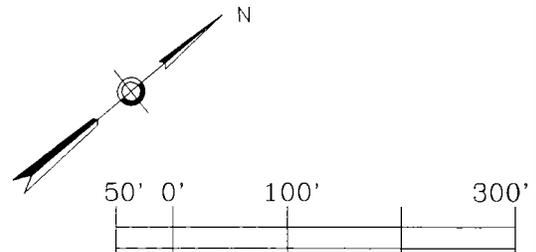
- X — FENCE
- == DIRT ROADWAY
- MW-19 MONITORING WELL NUMBER

— ABOVE GROUND PIPELINE

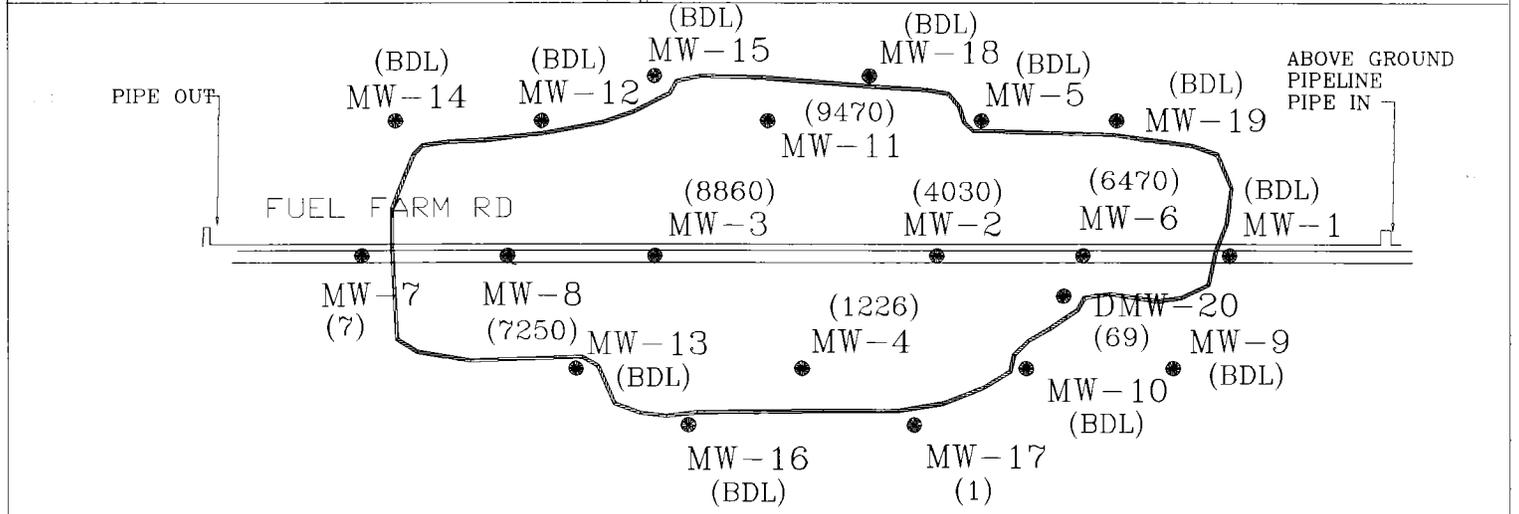
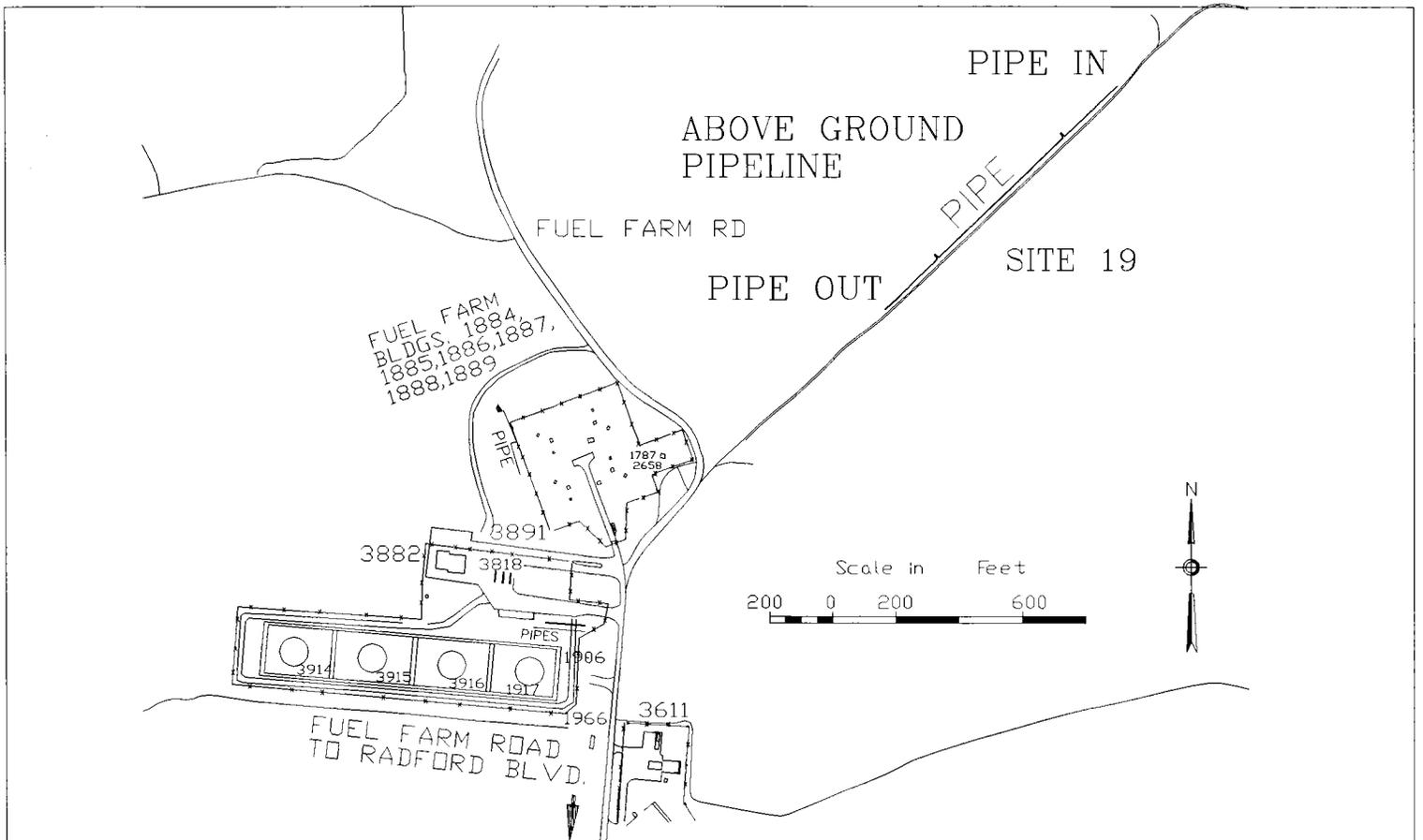
(180) BENZENE CONCENTRATION (PPB) MW-1 THRU MW-5 (2-26-97) MW-6 THRU MW-13 (3-28-97) MW-14 THRU MW-29 (4-15-97) DMW-20 (5-29-97)

— ISOCONCENTRATION CONTOUR (1PPB)

(BDL) BELOW DETECTION LIMIT



NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE: DATE:	FIGURE 2-5	DRAWN BY: DWG. NO: REVISED BY:
BENZENE CONTAMINATION DISTRIBUTION MAP SITE 19, NAVAL AIR STATION PENSACOLA		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT, NAS PENSACOLA		



LEGEND

— X — FENCE

== DIRT ROADWAY

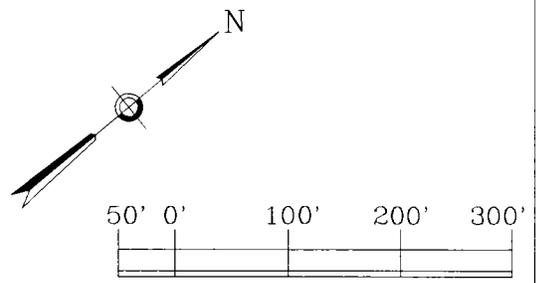
● MW-19 MONITORING WELL NUMBER

— ABOVE GROUND PIPELINE

(1226) TOTAL VOA CONCENTRATION (PPB)
 MW-1 THRU MW-5 (2-26-97)
 MW-6 THRU MW-13 (3-28-97)
 MW-14 THRU MW-29 (4-15-97)
 DMW-20 (5-29-97)

— ISOCONCENTRATION CONTOUR (50 PPB)

(BDL) BELOW DETECTION LIMIT



NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE: DATE:	FIGURE 2-6	DRAWN BY: DWG. NO: REVISED BY:
TOTAL VOA CONTAMINATION DISTRIBUTION MAP SITE 19, NAVAL AIR STATION PENSACOLA		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT, NAS PENSACOLA		

MW-11, and DMW-20 at concentrations of 220 ppb, 183 ppb, 136 ppb, 348 ppb, 16 ppb, 265 ppb, and 2 ppb, respectively. The levels of total naphthalenes detected in groundwater monitoring wells MW-2, MW-3, MW-4, MW-6, and MW-11 exceeded the FDEP regulatory limit of 100 ppb for total naphthalenes. Acenaphthene (11 ppb), fluoranthene (4 ppb), fluorene (3 ppb, 4 ppb) phenanthrene (5 ppb), and pyrene (3 ppb) were detected in the groundwater samples collected from monitoring wells MW-4, MW-2, MW-2 and MW-4, MW-2, and MW-2, respectfully. These levels are above the FDEP target level of detection limit. A summary table of the PAHs detected in the monitoring wells is shown in Table 2-4. A total naphthalene contamination distribution map is included as Figure 2-7.

Ethylene dibromide (EDB) was not detected in any of the groundwater samples collected from monitoring wells MW-1 thru DMW-20. Total petroleum hydrocarbons (TPHs) were detected in the groundwater samples collected from monitoring wells MW-2, MW-3, MW-4, MW-6, MW-8, and MW-11 at concentrations of 18000 ppb, 31000 ppb, 35000 ppb, 150000 ppb, 12000 ppb, and 76000 ppb, respectively. The levels of TPHs detected in groundwater monitoring wells MW-2 (18000 ppb), MW-3 (31000 ppb), MW-4 (35000 ppb), MW-6 (150000 ppb), MW-8 (12000 ppb), and MW-11 (76000 ppb) exceeded the FDEP regulatory limit of 5000 ppb for TPHs. A summary table of TPHs, total lead, and EDB detected in the monitoring wells is shown in Table 2-5. A TPH contamination distribution map is shown in Figure 2-8. Groundwater sampling performed September 16 and 19, 1997 at Site 19 using the quiescent sampling technique detected lead in the groundwater samples collected from monitoring wells MW-5, MW-8, MW-12, and MW-13 at concentrations of .004 ppb, .011 ppb, .007 ppb, and .004 ppb, respectively, which is below the FDEP regulatory limit of 50 ppb. No lead was detected in the groundwater samples collected from monitoring wells MW-1 thru MW-4, MW-6 and MW-7, MW-9 thru MW-11, and MW-14 thru DMW-20 located at Site 19.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 CONCLUSIONS

- The source of the contamination has been eliminated and the approximate number of gallons of JP-4 fuel oil discharged on to ground surface at Site 19 is 360,000.
- No initial remedial action was performed at the site.
- A total of 30 soil borings were installed to the groundwater table in order to delineate the extent of contaminated soils. Nine additional soil samples were collected during the installation of monitoring wells MW-1 thru MW-8 and DMW-20. Volatile organic compounds detected in the soil samples collected from SB-11 (>1000ppm), SB-14 (>1000ppm), SB-15 (750 ppm), SB-17 (850 ppm), and SB-18 (950 ppm) exceeded the limits of 500 ppm considered excessive soil contamination for the gasoline analytical group.

TABLE 2-4
SUMMARY OF POLYNUCLEAR AROMATIC HYDROCARBONS
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES
COLLECTED FROM MW-1 THRU DMW-20
NAVAL AIR STATION PENSACOLA, SITE 19

PARAMETER	MONITORING WELL NUMBER									
	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10
Acenaphthene	BDL	BDL	BDL	11	BDL	BDL	BDL	BDL	BDL	BDL
Fluoranthene	BDL	4	BDL							
Fluorene	BDL	3	BDL	4	BDL	BDL	BDL	BDL	BDL	BDL
Naphthalene	BDL	81	93	53	BDL	138	BDL	BDL	BDL	BDL
Phenanthrene	BDL	5	BDL							
Pyrene	BDL	3	BDL							
1-Methylnaphthalene	BDL	50	38	21	BDL	95	BDL	4	BDL	BDL
2-Methylnaphthalene	BDL	74	52	47	BDL	115	BDL	12	BDL	BDL
Total Naphthalene	BDL	220	183	136	BDL	348	BDL	16	BDL	BDL

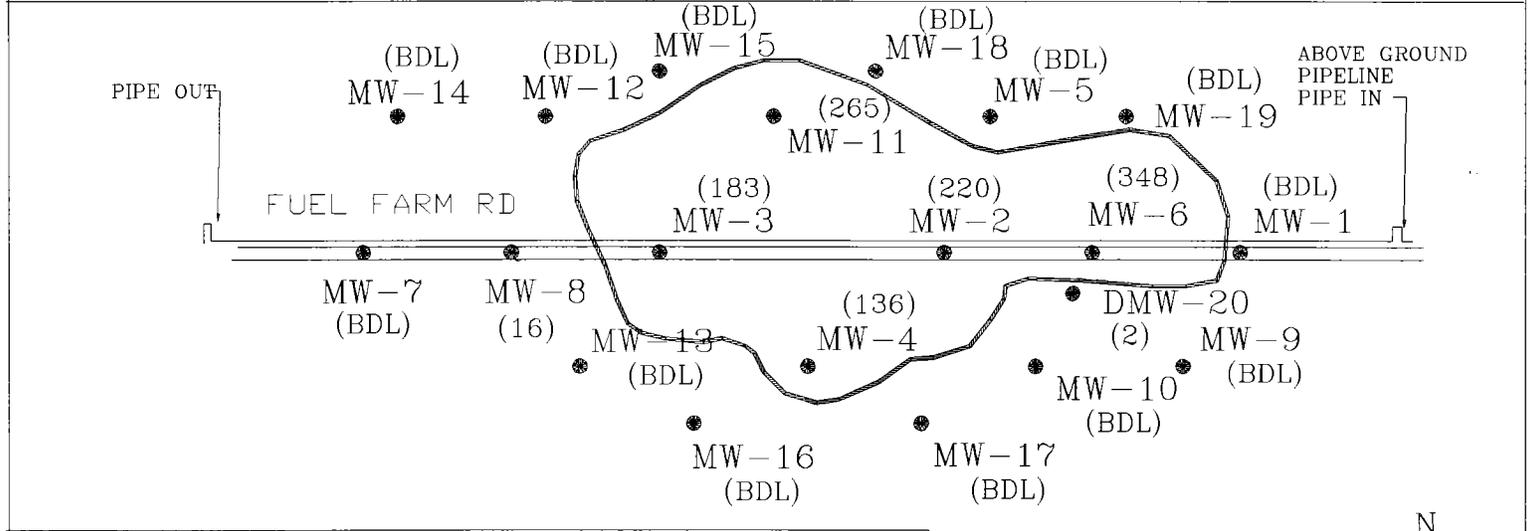
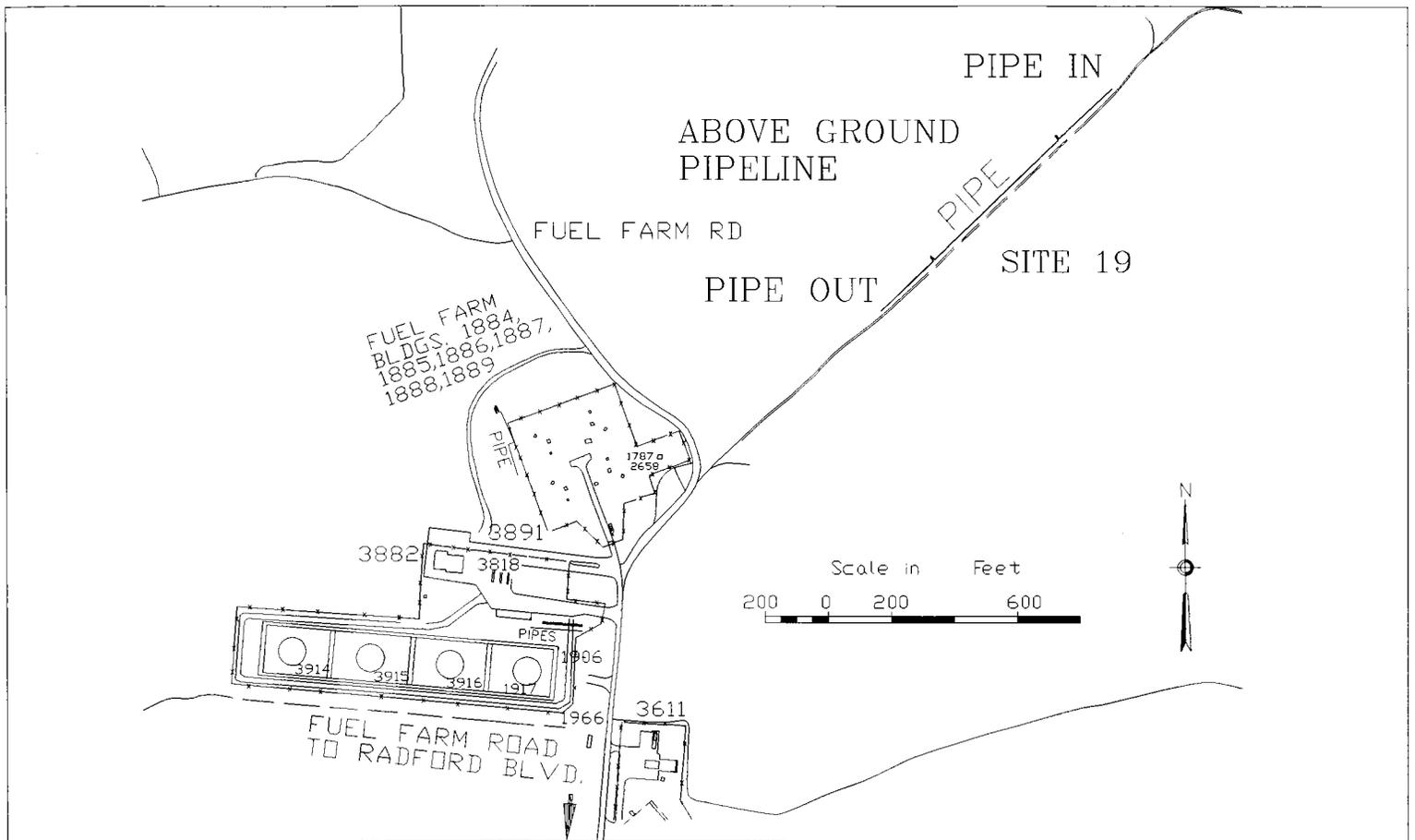
PARAMETER	MONITORING WELL NUMBER									
	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	DMW-20
Acenaphthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Fluoranthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Fluorene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Naphthalene	94	BDL	2							
Phenanthrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Pyrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1-Methylnaphthalene	96	BDL								
2-Methylnaphthalene	75	BDL								
Total Naphthalene	265	BDL	2							

NOTES: Groundwater samples collected on dates indicated above.

All results reported in parts per billion (ppb) unless otherwise noted. BDL = Below detection limits

Groundwater samples collected from MW-1 thru MW-5 2/26/97. Groundwater samples collected from MW-6 thru MW-13 3/28/97.

Groundwater samples collected from MW-14 thru MW-29 4/15/97. Groundwater samples collected from DMW-20 5/29/97.



LEGEND

- FENCE
- DIRT ROADWAY
- MW-19 MONITORING WELL NUMBER
- ABOVE GROUND PIPELINE
- (180) TOTAL NAPHTHALENE CONCENTRATION (PPB)
 MW-1 THRU MW-5 (2-26-97)
 MW-6 THRU MW-13 (3-28-97)
 MW-14 THRU MW-29 (4-15-97)
 DMW-20 (5-29-97) **29**
- ISOCONCENTRATION CONTOUR (100 PPB)
- (BDL) BELOW DETECTION LIMIT

N

50' 0' 100' 300'

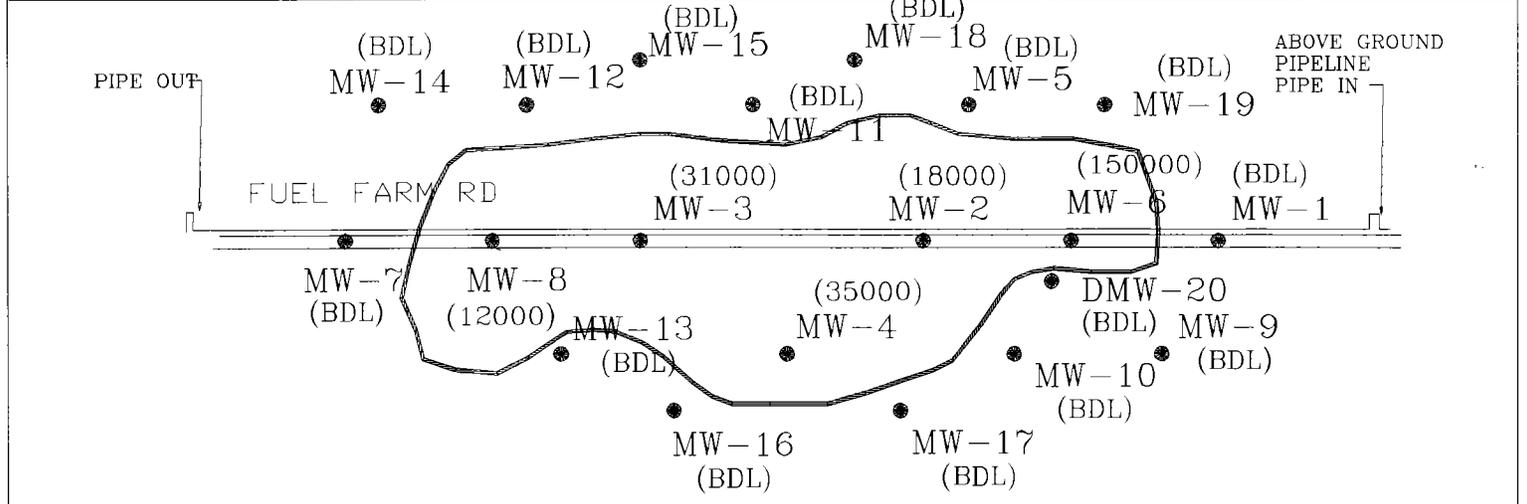
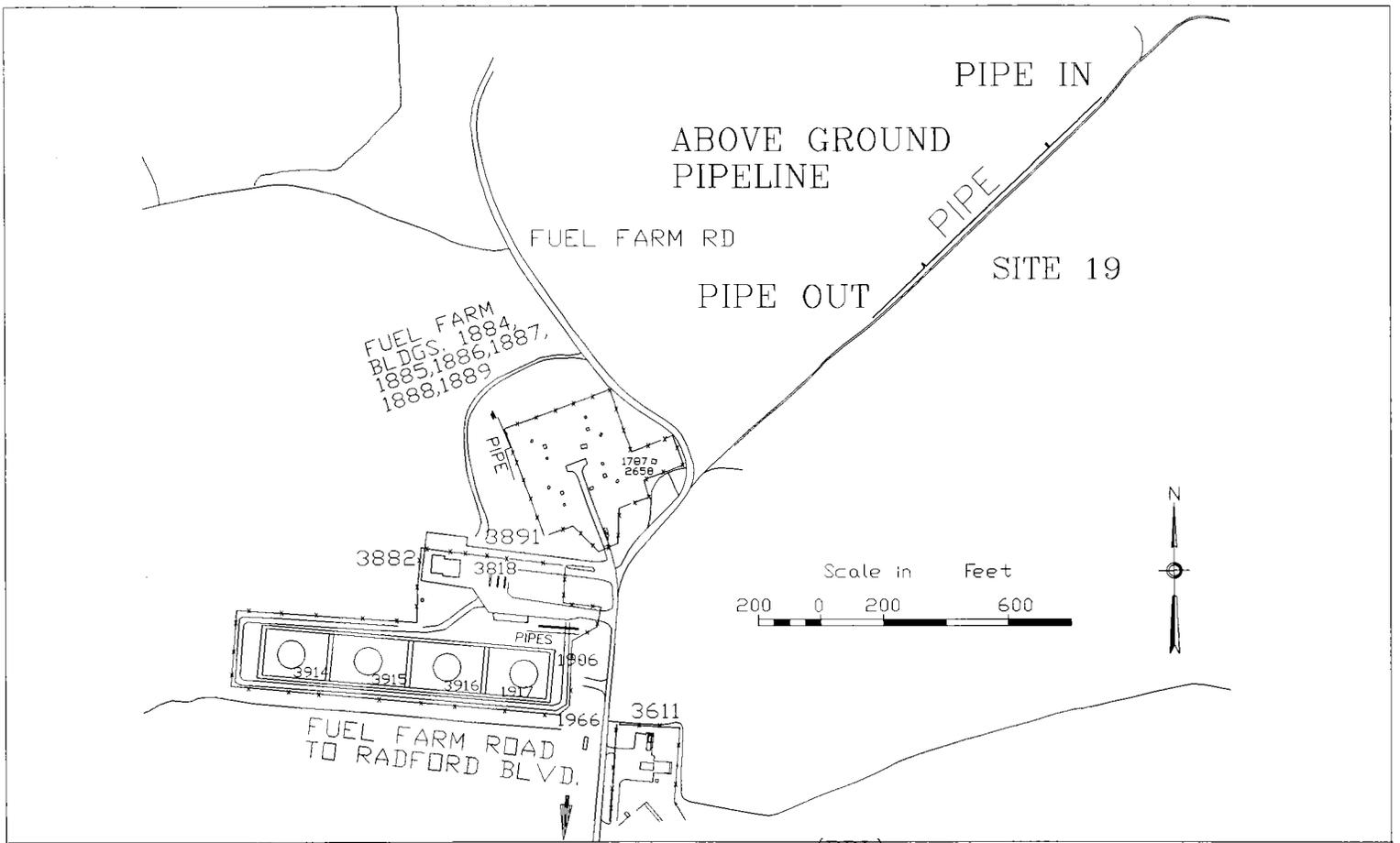
NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE: DATE:	FIGURE 2-7	DRAWN BY: DWG. NO: REVISED BY:
TOTAL NAPHTHALENE CONTNMN. DISTRIBUTION MAP SITE 19, NAVAL AIR STATION PENSACOLA		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT, NAS PENSACOLA		

TABLE 2-5
SUMMARY OF TPH, LEAD, AND EDB
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES
COLLECTED FROM MONITORING WELLS MW-1 THRU DMW-20
NAVAL AIR STATION PENSACOLA, SITE 19

PARAMETER	MONITORING WELL NUMBER									
	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10
TPH	BDL	18000	31000	35000	BDL	150000	BDL	12000	BDL	BDL
Lead (ppm)	BDL	BDL	BDL	BDL	.004	BDL	BDL	.011	BDL	BDL
EDB	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

PARAMETER	MONITORING WELL NUMBER									
	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	DMW-20
TPH	76000	BDL								
Lead (ppm)	BDL	.007	.004	BDL						
EDB	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

NOTES: All results reported in parts per billion (ppb) unless otherwise noted
BDL = Below detection limits
EDB = Ethylene Dibromide
TPH = Total Petroleum Hydrocarbons
Groundwater samples collected from MW-1 thru MW-5 on 2/26/97. Groundwater samples collected from MW-6 thru MW-13 on 3/28/97.
Groundwater samples collected from MW-14 thru MW-19 on 4/15/97. Groundwater samples collected from DMW-20 on 5/29/97.
Lead samples collected from MW-1 thru DMW-20 on 9/16/97 and 9/19/97.



LEGEND

- FENCE
- DIRT ROADWAY
- MW-19 MONITORING WELL NUMBER
- ABOVE GROUND PIPELINE
- (180) TPH CONCENTRATION (PPB)
 MW-1 THRU MW-5 (2-26-97)
 MW-6 THRU MW-13 (3-28-97)
 MW-14 THRU MW-29 (4-15-97)
 DMW-20 (5-29-97)
- ISOCONCENTRATION CONTOUR (5000 PPB)
- (BDL) BELOW DETECTION LIMIT

N

50' 0' 100' 300'

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE: DATE:	FIGURE 2-8	DRAWN BY: DWG. NO: REVISED BY:
TPH CONTAMINATION DISTRIBUTION MAP SITE 19, NAVAL AIR STATION PENSACOLA		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT, NAS PENSACOLA		

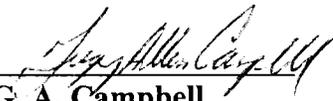
- Nineteen shallow groundwater monitoring wells (MW-1 thru MW-19) and one deep vertical extent monitoring well (DMW-20) were installed at the site. Groundwater samples were collected from each well and analyzed for the kerosene analytical group listed in FDEP Rule 62-770.600(8)(b).
- Groundwater depth measured in monitoring wells MW-1 thru DMW-20 on September 16, 1997 indicates the groundwater flow direction at the site to be toward the southwest.
- No kerosene analytical group contaminants were detected in monitoring wells MW-1, MW-5, MW-9, MW-10, MW-12, MW-14, MW-15, MW-16, MW-18, and MW-19.
- Benzene detected in monitoring wells MW-2 (180 ppb), MW-3 (1200 ppb), MW-4 (17 ppb), MW-6 (370 ppb), MW-8 (1300 ppb), MW-11 (170 ppb) and DMW-20 (3 ppb) exceeded the FDEP regulatory limits of 1 ppb for benzene.
- Total VOA detected in monitoring wells MW-2 (4030 ppb), MW-3 (8860 ppb), MW-4 (1226 ppb), MW-6 (6470 ppb), MW-8 (7250 ppb), MW-11 (9470 ppb), and DMW-20 (69 ppb) exceeded the FDEP regulatory limits of 50 ppb for total VOAs .
- Total naphthalenes detected in monitoring wells MW-2 (212 ppb), MW-5 (180 ppb), MW-11 (193 ppb), and MW-19 (113 ppb) exceeded the FDEP regulatory limits of 100 ppb for total naphthalenes.
- TPHs detected in monitoring wells MW-2 (18 ppm), MW-3 (31 ppm), MW-4 (35 ppm), MW-6 (15 ppm), MW-8 (12 ppm), and MW-11 (76 ppm) exceeded the FDEP regulatory limits of 5 ppm for TPHs.
- Lead detected in groundwater samples collected from monitoring wells MW-1 thru DMW-20 at Site 19 did not exceed FDEP regulatory limits of 50 ppb for lead.
- No EDBs were detected in the groundwater samples collected from monitoring wells MW-1 thru DMW-20.
- NASP water supply wells (Wells No. 1 and No. 2) are located approximately 2.7 miles northeast and 3.0 miles northeast of Site 19, respectively.
- The hydraulic conductivity at the site was estimated to be 48.3 ft/day.
- The average pore water velocity is estimated to be 0.184 ft/day.

3.2 RECOMMENDATIONS

Contaminants were detected in the soil and groundwater at levels that exceeded the FDEP regulatory limits. The extent of the groundwater contamination is widespread and covers a somewhat extensive area. Therefore, the preparation of a soil and groundwater remedial action plan in accordance with FDEP Rule 62-770 is recommended at the site.

4.0 PROFESSIONAL REVIEW CERTIFICATION

The Site Assessment contained in this report was prepared using sound, hydrogeologic principles and judgement. This assessment is based on the geologic investigation and associated information detailed in the text and appended to this report. If conditions are determined to exist that differ from those described, the undersigned engineer should be notified to evaluate the effects of any additional information on the assessment described in this report. This Site Assessment Report was developed for Naval Air Station Pensacola, Site 19, Pensacola, Florida, and should not be construed to apply to any other site.


G. A. Campbell
Professional Engineer
P.E. No. 38572


Date

5.0 REFERENCES

Ecology and Environment, Inc. (E&E). April 1989. Contamination Assessment/Remedial Activities Investigation Work Plan: Group J, Naval Air Station Pensacola, Florida, Crash Crew Training Area (Site 3); Fuel Farm Pipeline Leak Area (Site 19).

Geraghty and Miller, Inc. March 1986. Characterization Study: Assessment of Potential Groundwater Pollution at Naval Air Station Pensacola, Florida.

Naval Energy and Environmental Support Activity (NEESA). January 1983. Initial Assessment Study of Naval Air Station Pensacola, Florida.

APPENDICES

APPENDIX A

MONITORING WELL CONSTRUCTION DIAGRAM



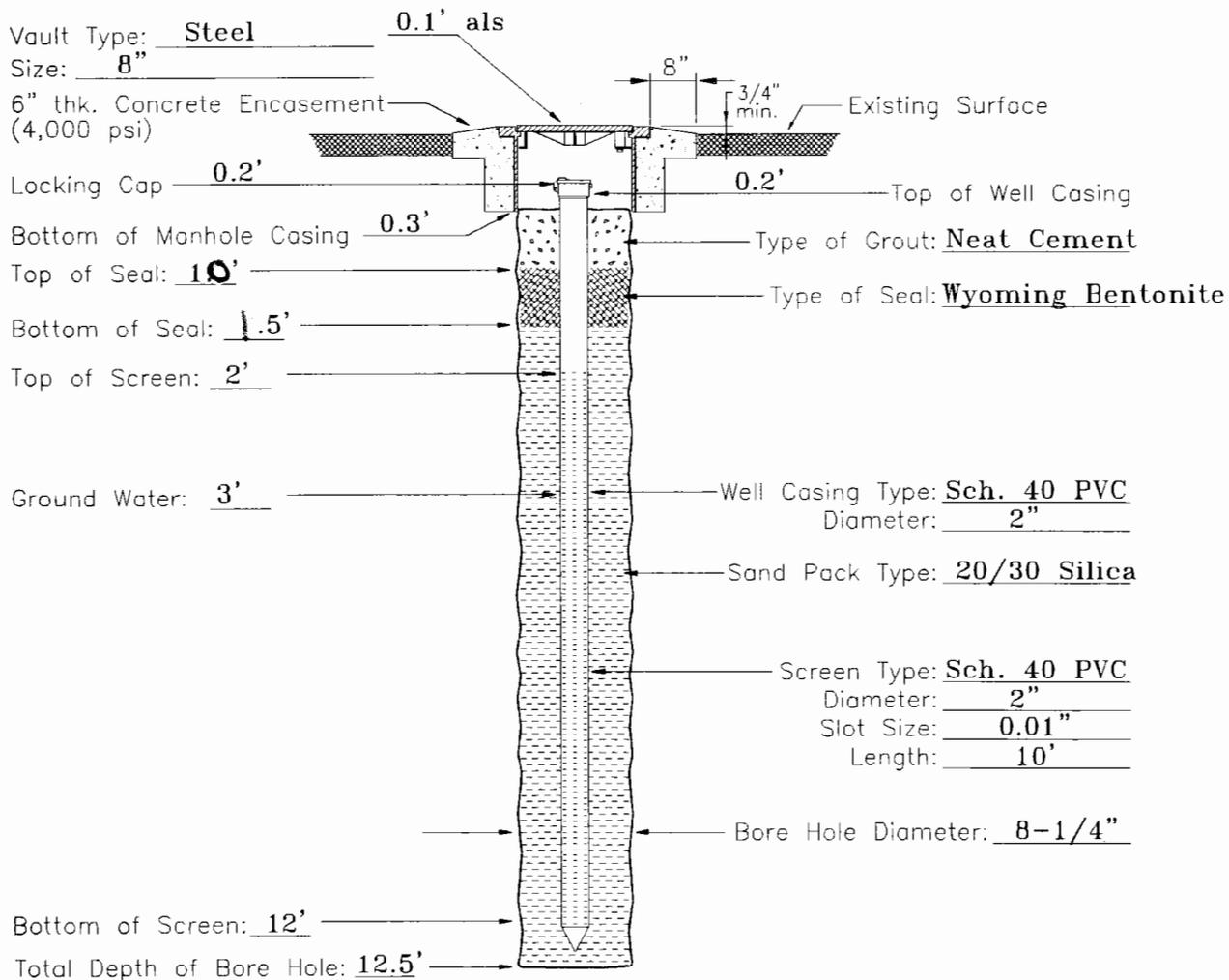
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

LOGGED BY: Patrick J. Brown
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Craig Griffey
WELL NUMBER: MW-1

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 19, Naval Air Station
JOB NUMBER: N65114-95-D-2126
DATE Start: 02/20/97 Finish: 02/20/97
TIME Start: 0900 Finish: 0950

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

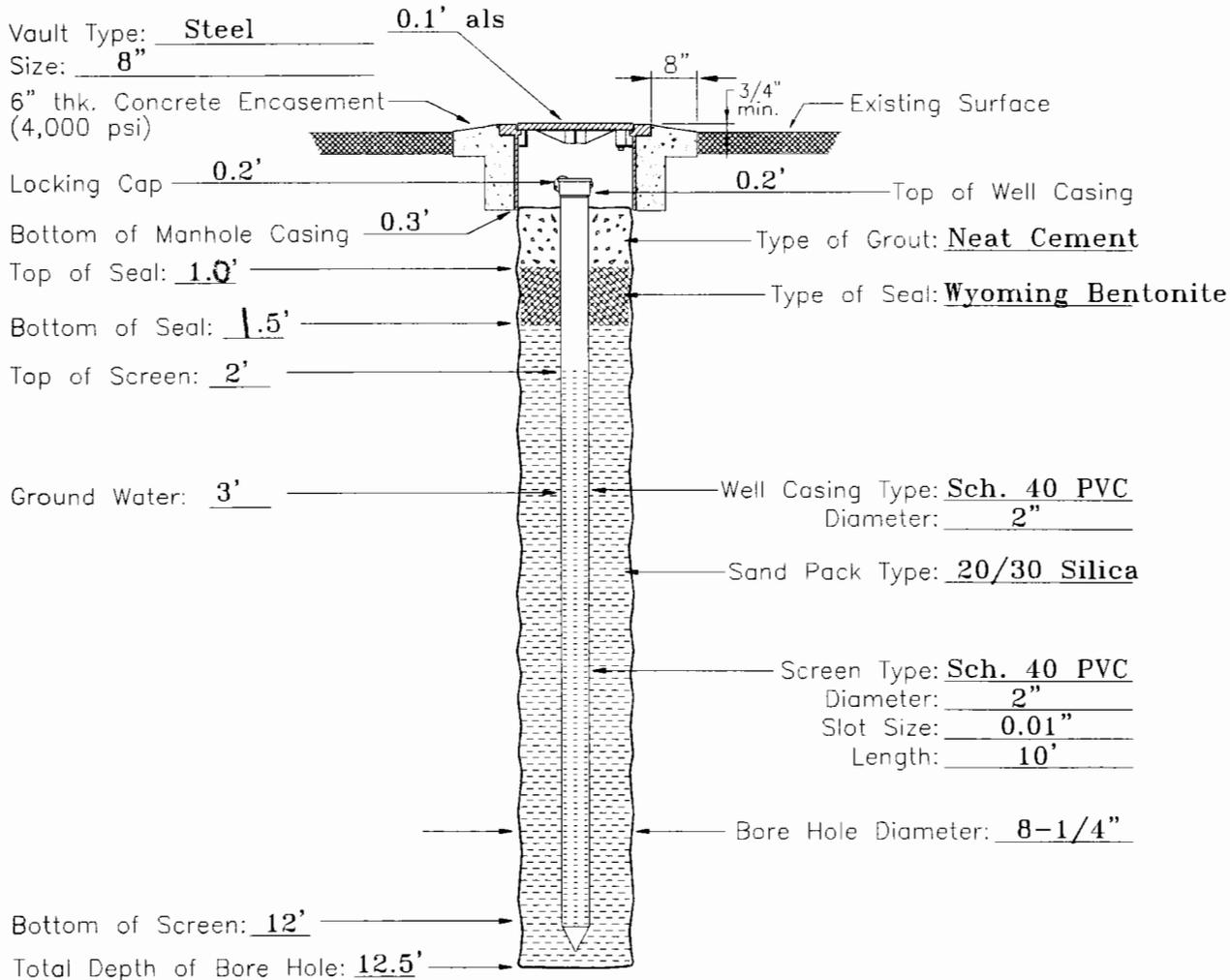
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
 Sarasota, FL 34240-8810
 (941) 371-7617
 (941) 378-5218 Fax

LOGGED BY: Patrick J. Brown
 DRILLING CONTRACTOR: S. FL Test & Dr.
 DRILLER'S NAME: Craig Griffey
 WELL NUMBER: MW-2

CLIENT: NPWC, ROICC, NAS Pensacola, FL
 LOCATION: Site 19, Naval Air Station
 JOB NUMBER: N65114-95-D-2126
 DATE Start: 02/20/97 Finish: 02/20/97
 TIME Start: 1000 Finish: 1050

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE



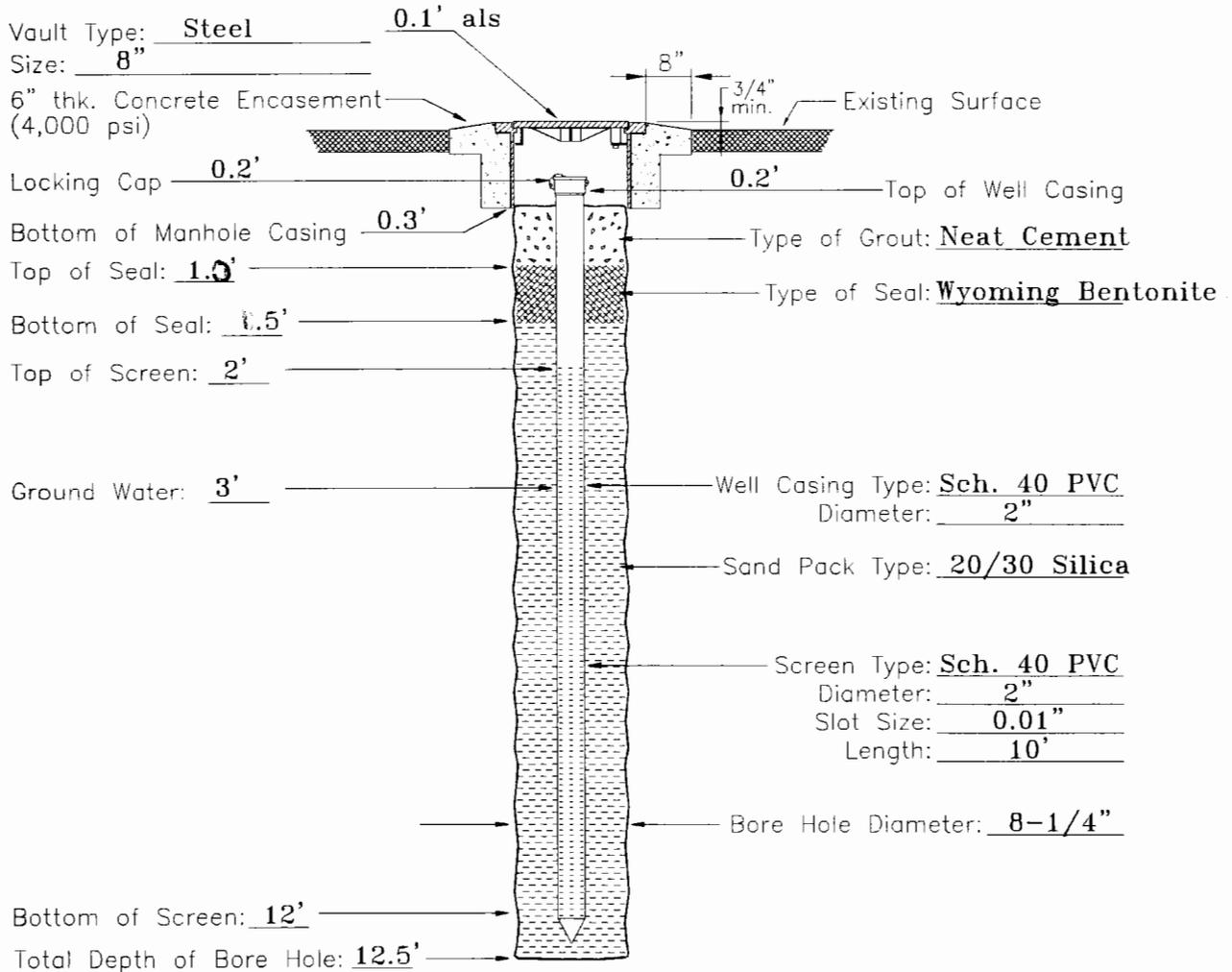
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

LOGGED BY: Patrick J. Brown
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Craig Griffey
WELL NUMBER: MW-3

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 19, Naval Air Station
JOB NUMBER: N65114-95-D-2126
DATE Start: 02/20/97 Finish: 02/20/97
TIME Start: 1100 Finish: 1150

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE



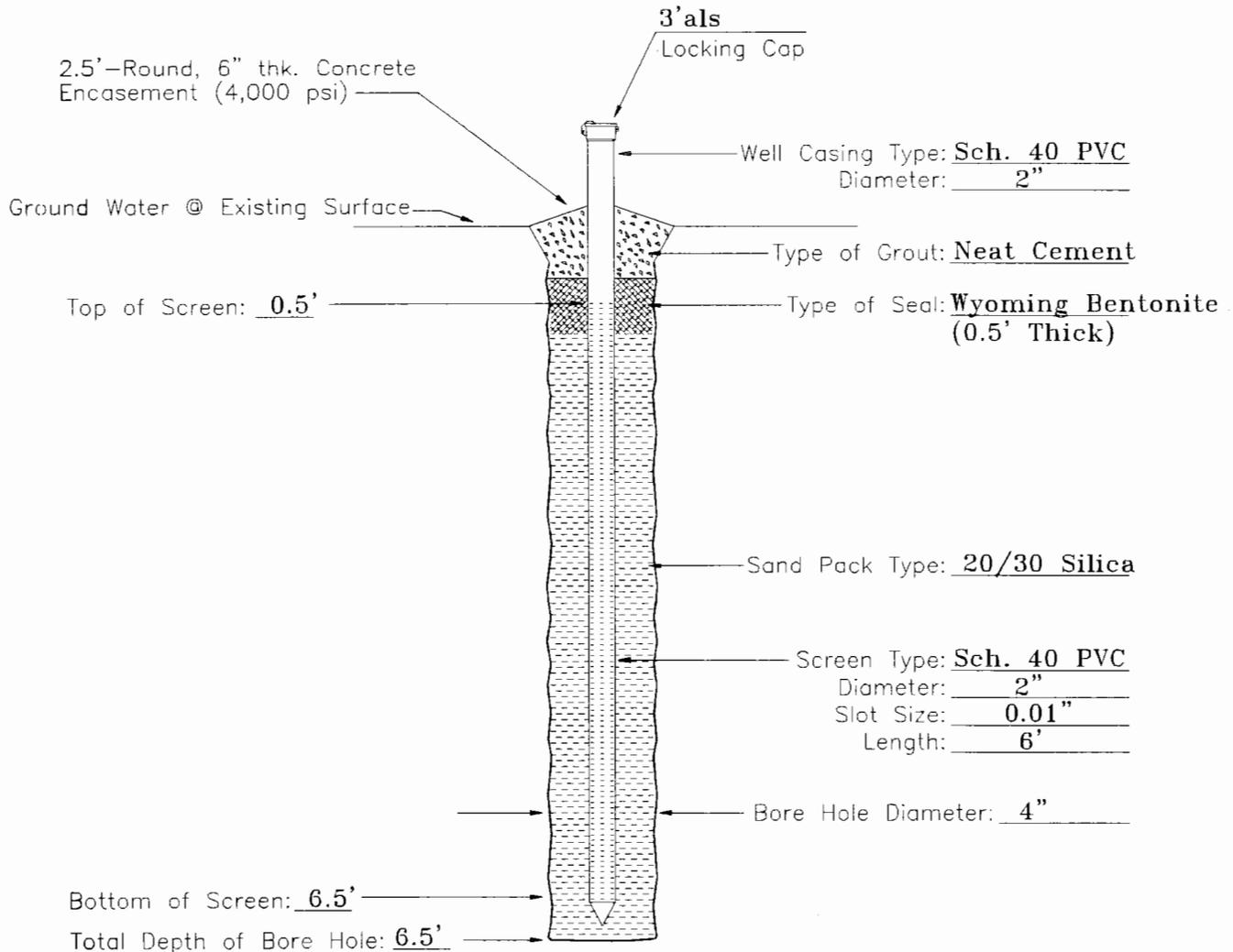
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

LOGGED BY: Patrick J. Brown
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Craig Griffey
WELL NUMBER: MW-4

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 19, Naval Air Station
JOB NUMBER: N65114-95-D-2126
DATE Start: 02/20/97 Finish: 02/20/97
TIME Start: 1300 Finish: 1400

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE



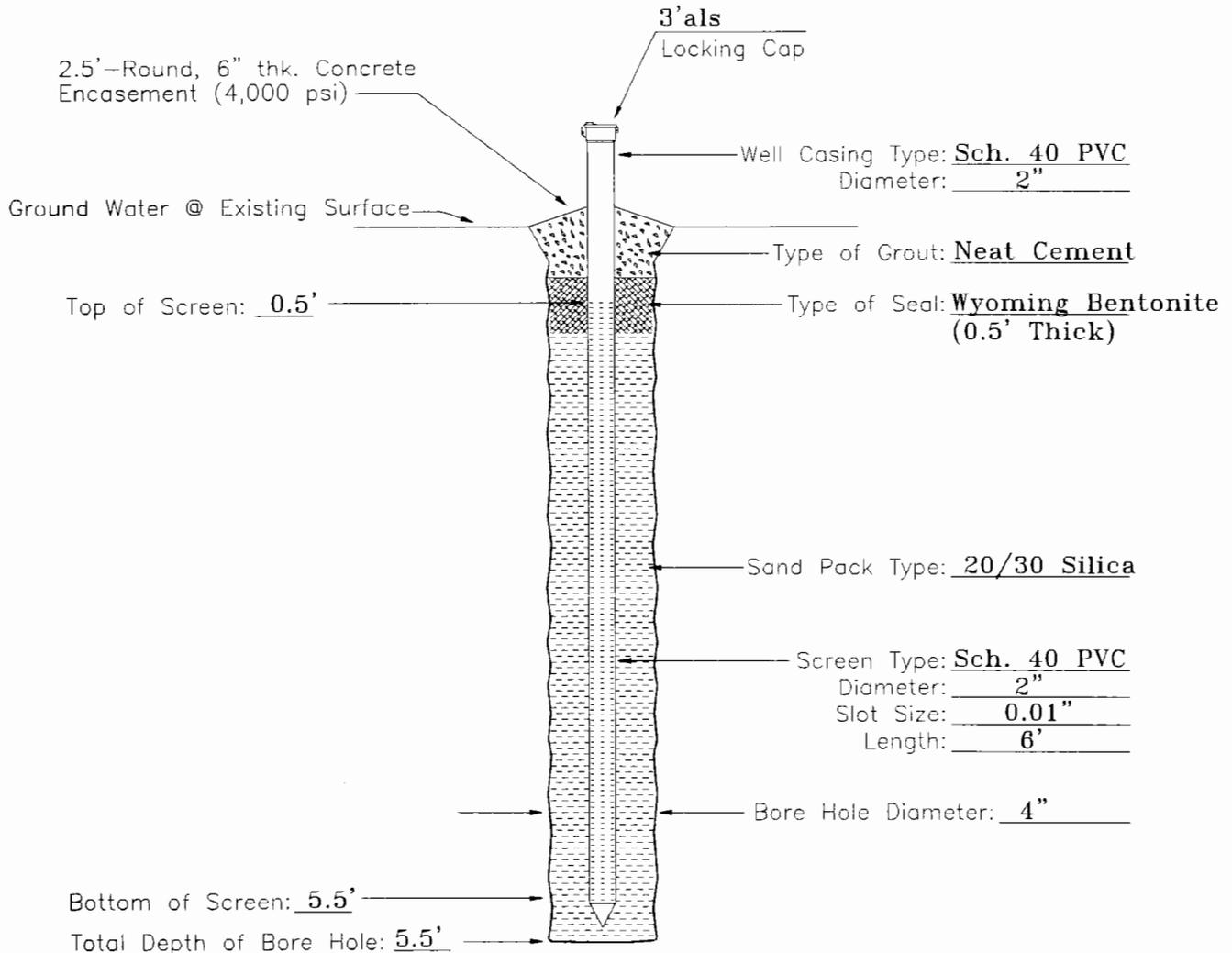
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

LOGGED BY: Patrick J. Brown
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Craig Griffey
WELL NUMBER: MW-5

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 19, Naval Air Station
JOB NUMBER: N65114-95-D-2126
DATE Start: 02/20/97 Finish: 02/20/97
TIME Start: 1400 Finish: 1500

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

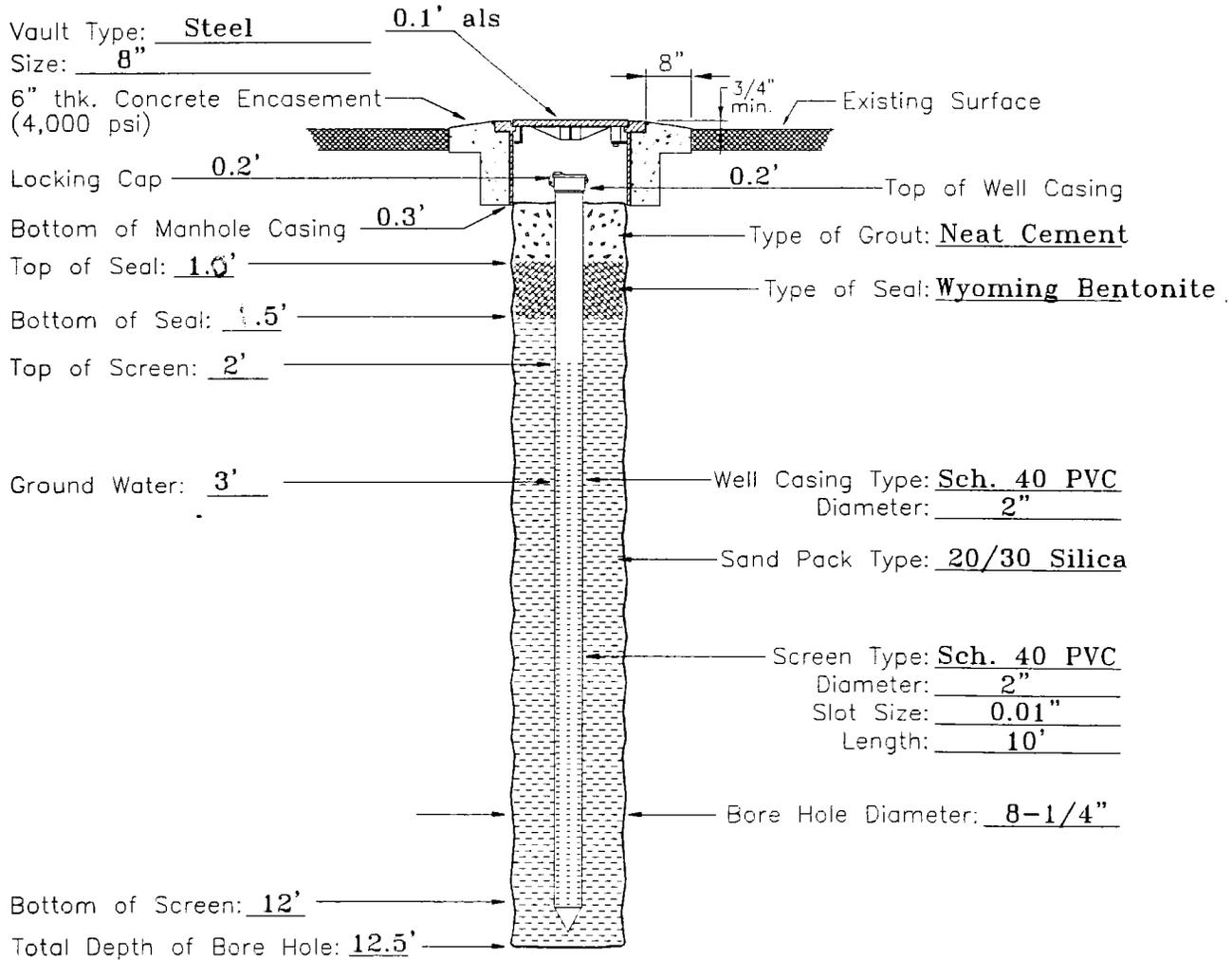
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
 Sarasota, FL 34240-8810
 (941) 371-7617
 (941) 378-5218 Fax

LOGGED BY: Patrick J. Brown
 DRILLING CONTRACTOR: S. FL Test & Dr.
 DRILLER'S NAME: Craig Griffey
 WELL NUMBER: MW-6

CLIENT: NPWC, ROICC, NAS Pensacola, FL
 LOCATION: Site 19, Naval Air Station
 JOB NUMBER: N65114-95-D-2126
 DATE Start: 03/26/97 Finish: 03/26/97
 TIME Start: 1300 Finish: 1345

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE



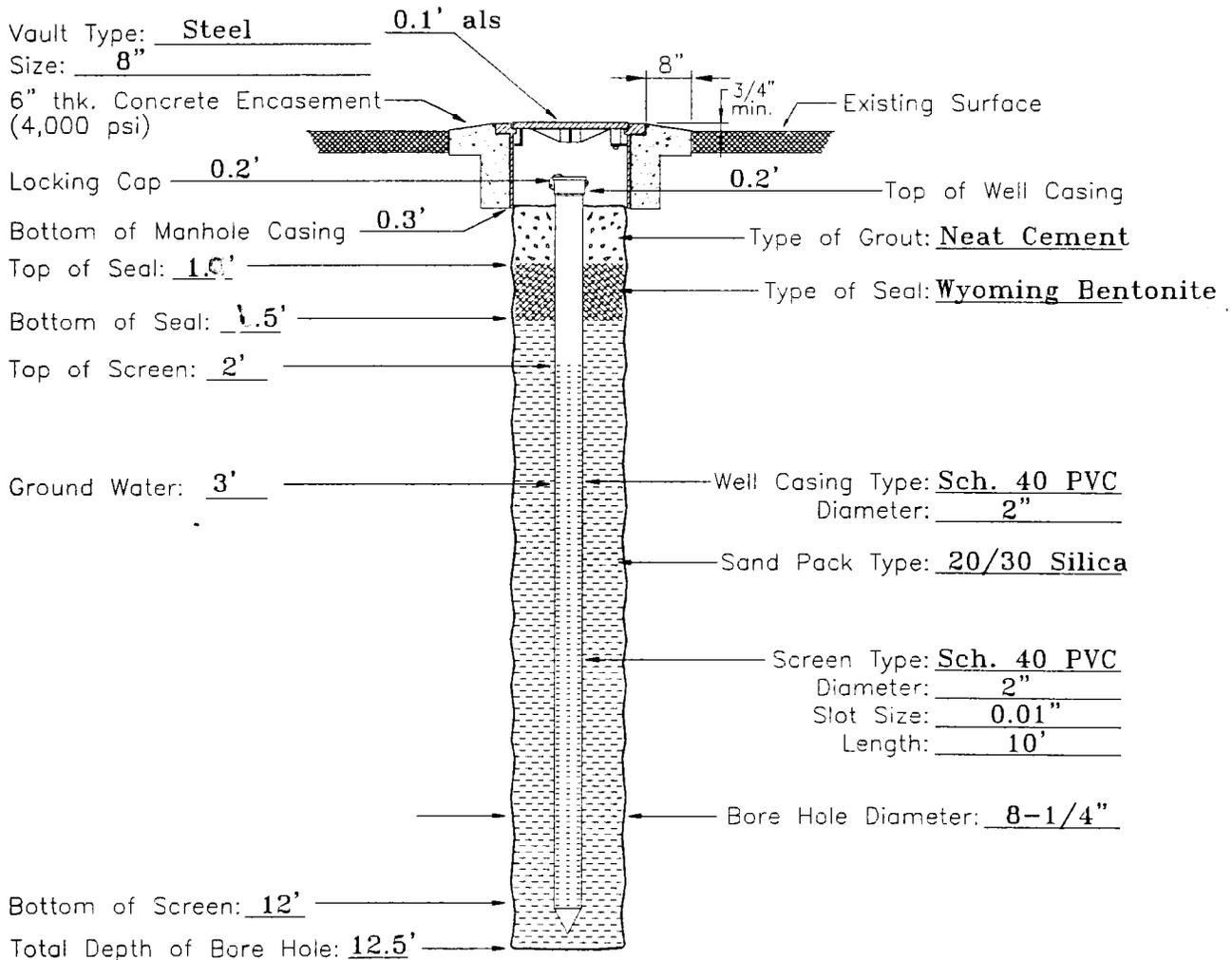
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
 Sarasota, FL 34240-8810
 (941) 371-7617
 (941) 378-5218 Fax

LOGGED BY: Patrick J. Brown
 DRILLING CONTRACTOR: S. FL Test & Dr.
 DRILLER'S NAME: Craig Griffey
 WELL NUMBER: MW-7

CLIENT: NPWC, ROICC, NAS Pensacola, FL
 LOCATION: Site 19, Naval Air Station
 JOB NUMBER: N65114-95-D-2126
 DATE Start: 03/26/97 Finish: 03/26/97
 TIME Start: 1345 Finish: 1430

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE



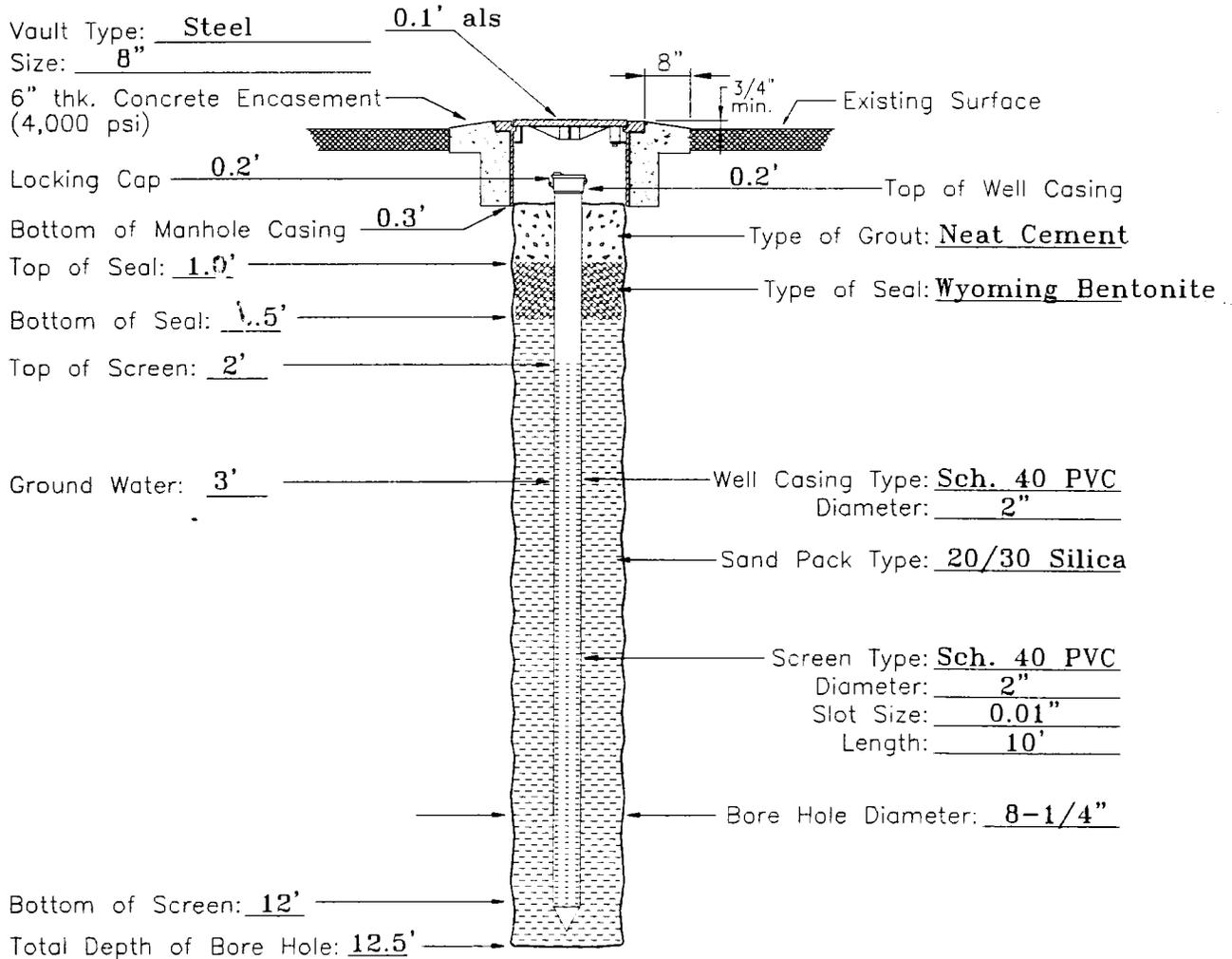
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

LOGGED BY: Patrick J. Brown
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Craig Griffey
WELL NUMBER: MW-8

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 19, Naval Air Station
JOB NUMBER: N65114-95-D-2126
DATE Start: 03/26/97 Finish: 03/26/97
TIME Start: 1430 Finish: 1515

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

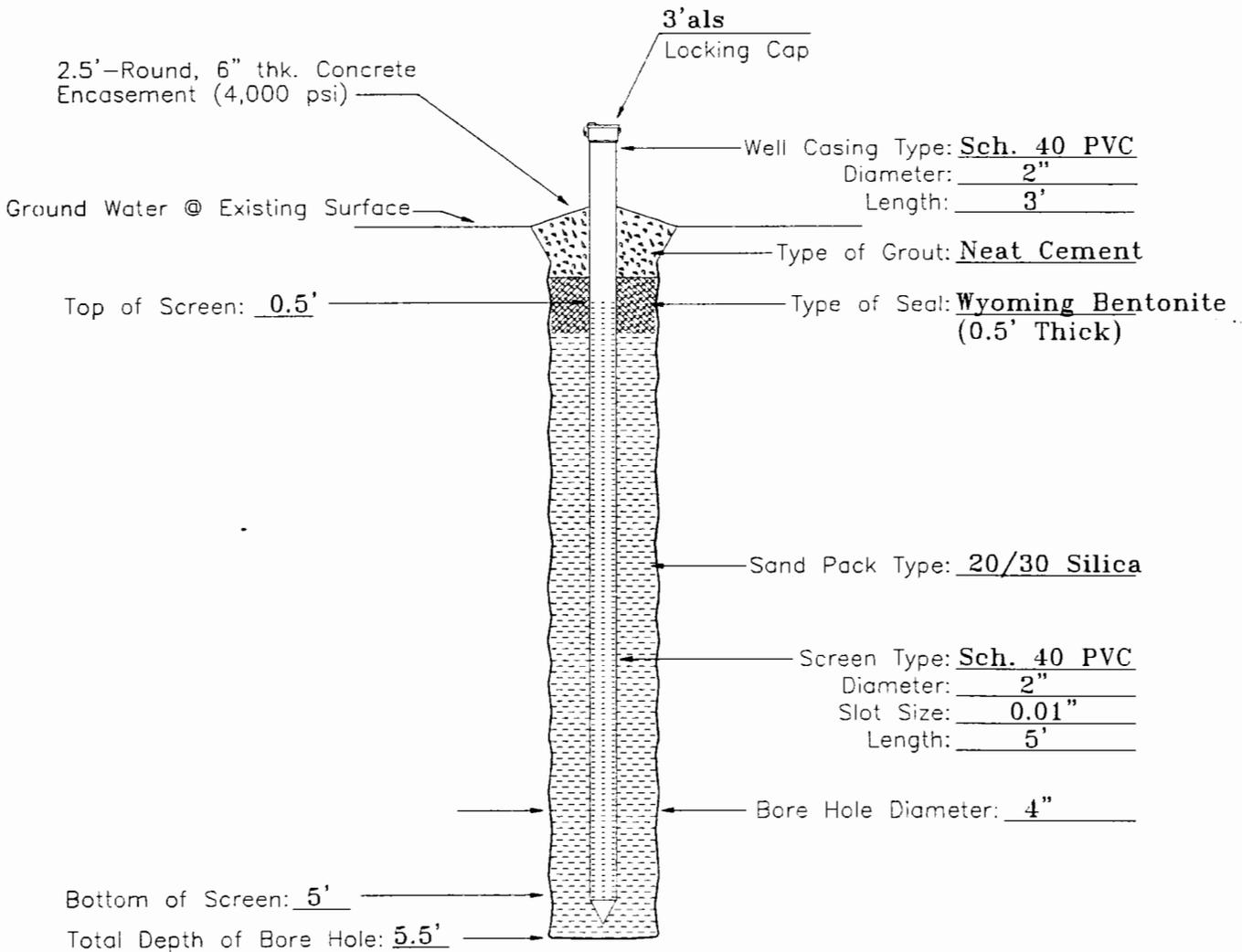
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
 Sarasota, FL 34240-8810
 (941) 371-7617
 (941) 378-5218 Fax

LOGGED BY: Patrick J. Brown
 DRILLING CONTRACTOR: S. FL Test & Dr.
 DRILLER'S NAME: Craig Griffey
 WELL NUMBER: MW-9

CLIENT: NPWC, ROICC, NAS Pensacola, FL
 LOCATION: Site 19, Naval Air Station
 JOB NUMBER: N65114-95-D-2126
 DATE Start: 03/27/97 Finish: 03/27/97
 TIME Start: 0845 Finish: 0930

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE





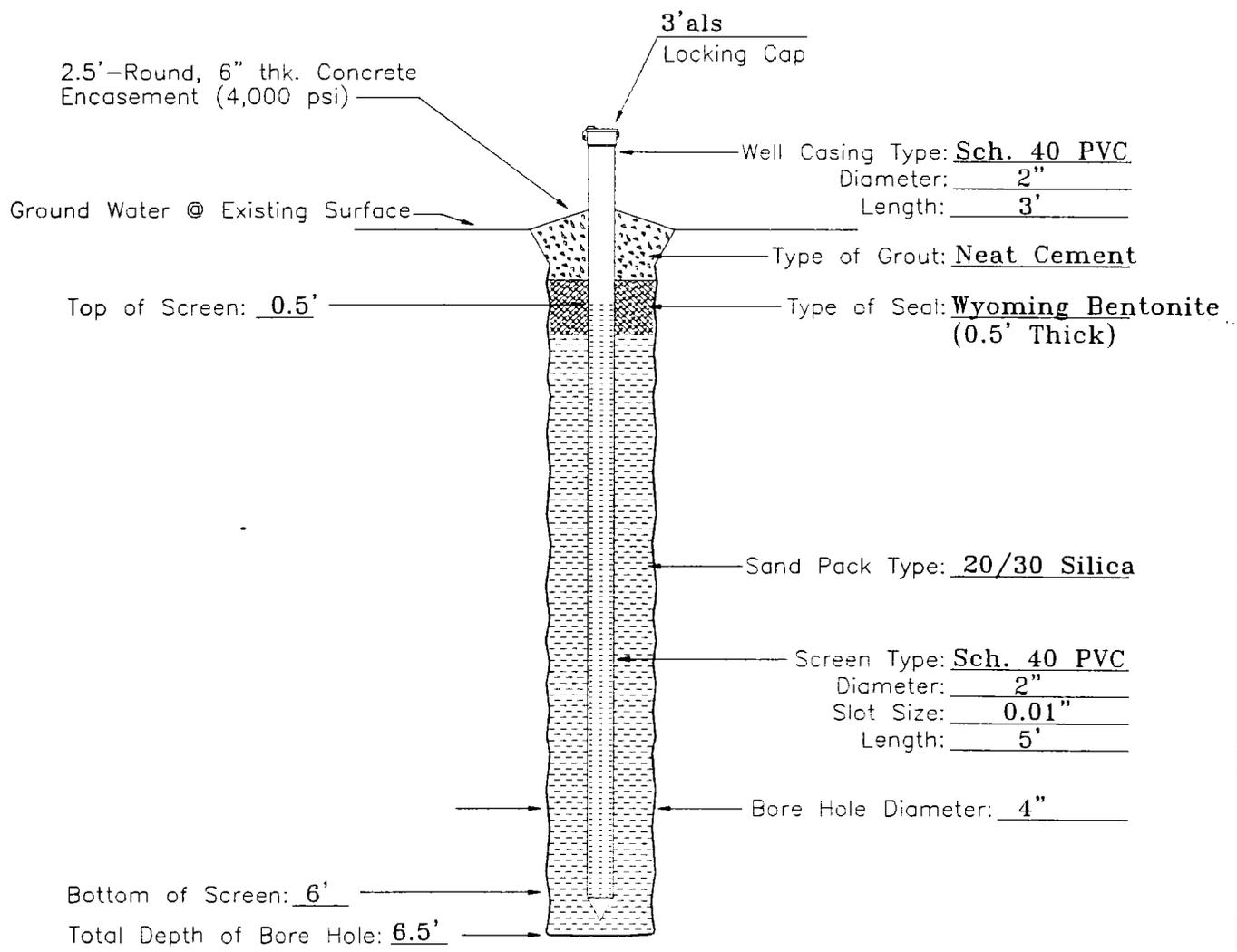
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

LOGGED BY: Patrick J. Brown
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Craig Griffey
WELL NUMBER: MW-10

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 19, Naval Air Station
JOB NUMBER: N65114-95-D-2126
DATE Start: 03/27/97 Finish: 03/27/97
TIME Start: 0945 Finish: 1030

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE





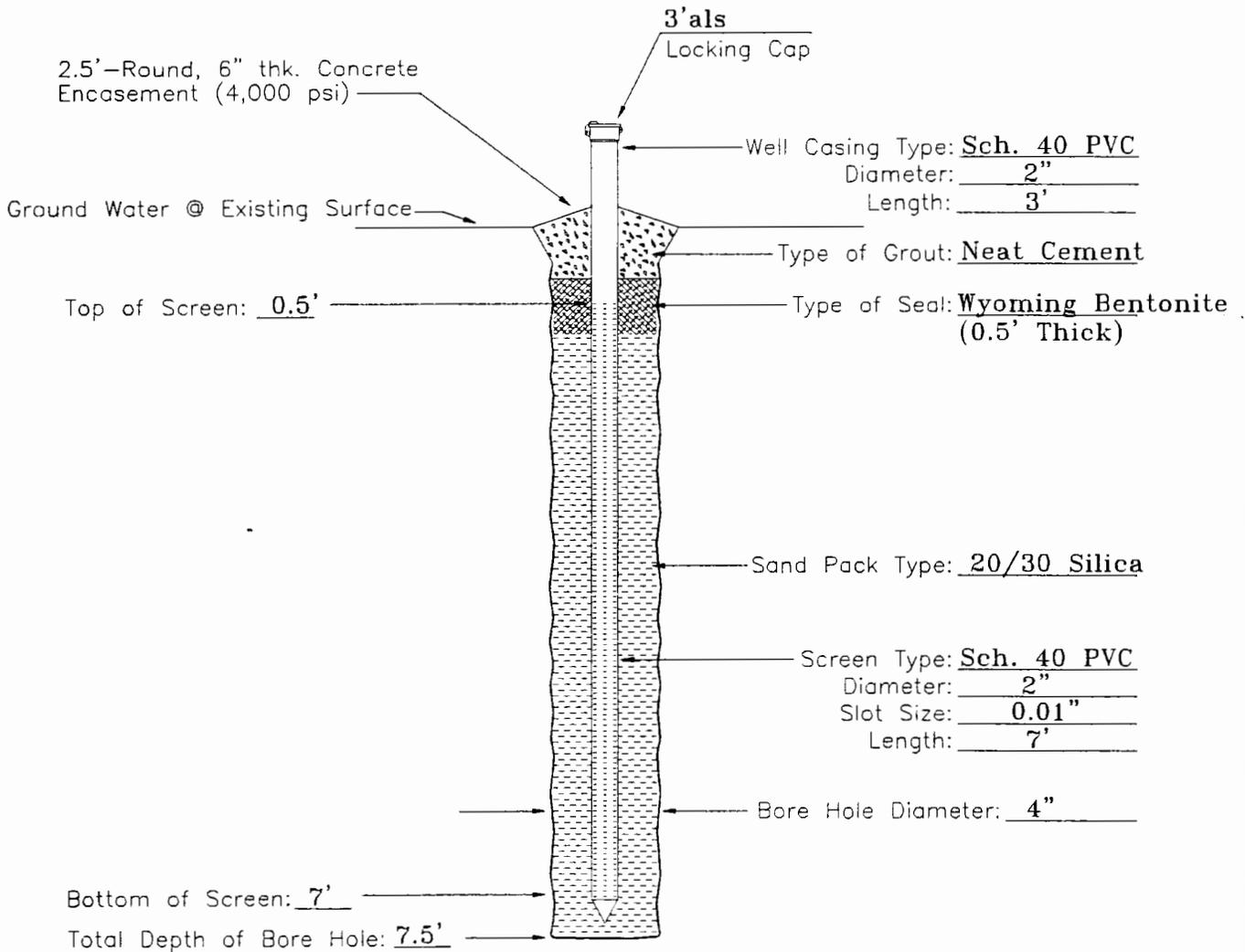
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

LOGGED BY: Patrick J. Brown
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Craig Griffey
WELL NUMBER: MW-11

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 19, Naval Air Station
JOB NUMBER: N65114-95-D-2126
DATE Start: 03/27/97 Finish: 03/27/97
TIME Start: 1045 Finish: 1115

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE



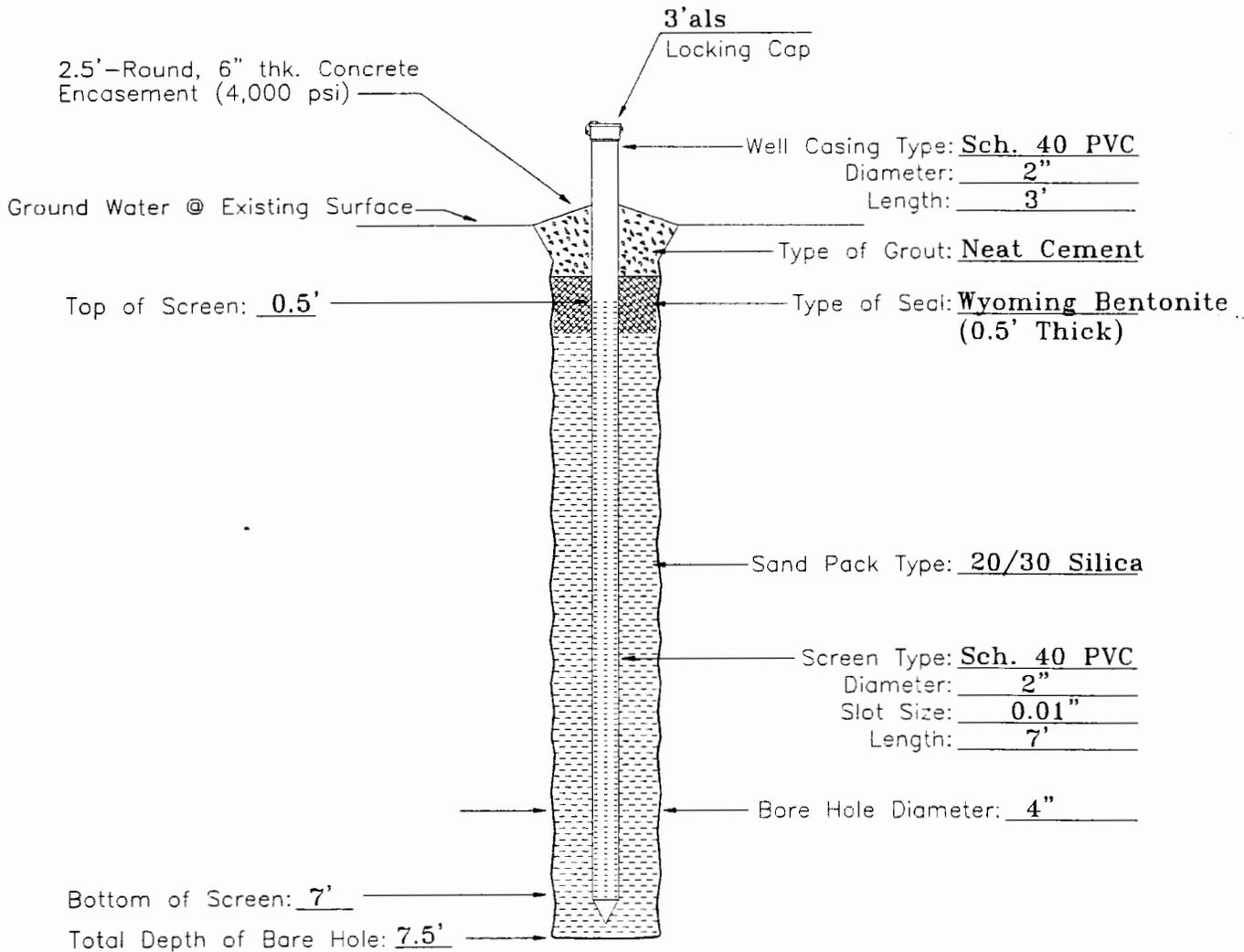
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
 Sarasota, FL 34240-8810
 (941) 371-7617
 (941) 378-5218 Fax

LOGGED BY: Patrick J. Brown
 DRILLING CONTRACTOR: S. FL Test & Dr.
 DRILLER'S NAME: Craig Griffey
 WELL NUMBER: MW-12

CLIENT: NPWC, ROICC, NAS Pensacola, FL
 LOCATION: Site 19, Naval Air Station
 JOB NUMBER: N65114-95-D-2126
 DATE Start: 03/27/97 Finish: 03/27/97
 TIME Start: 1120 Finish: 1150

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE





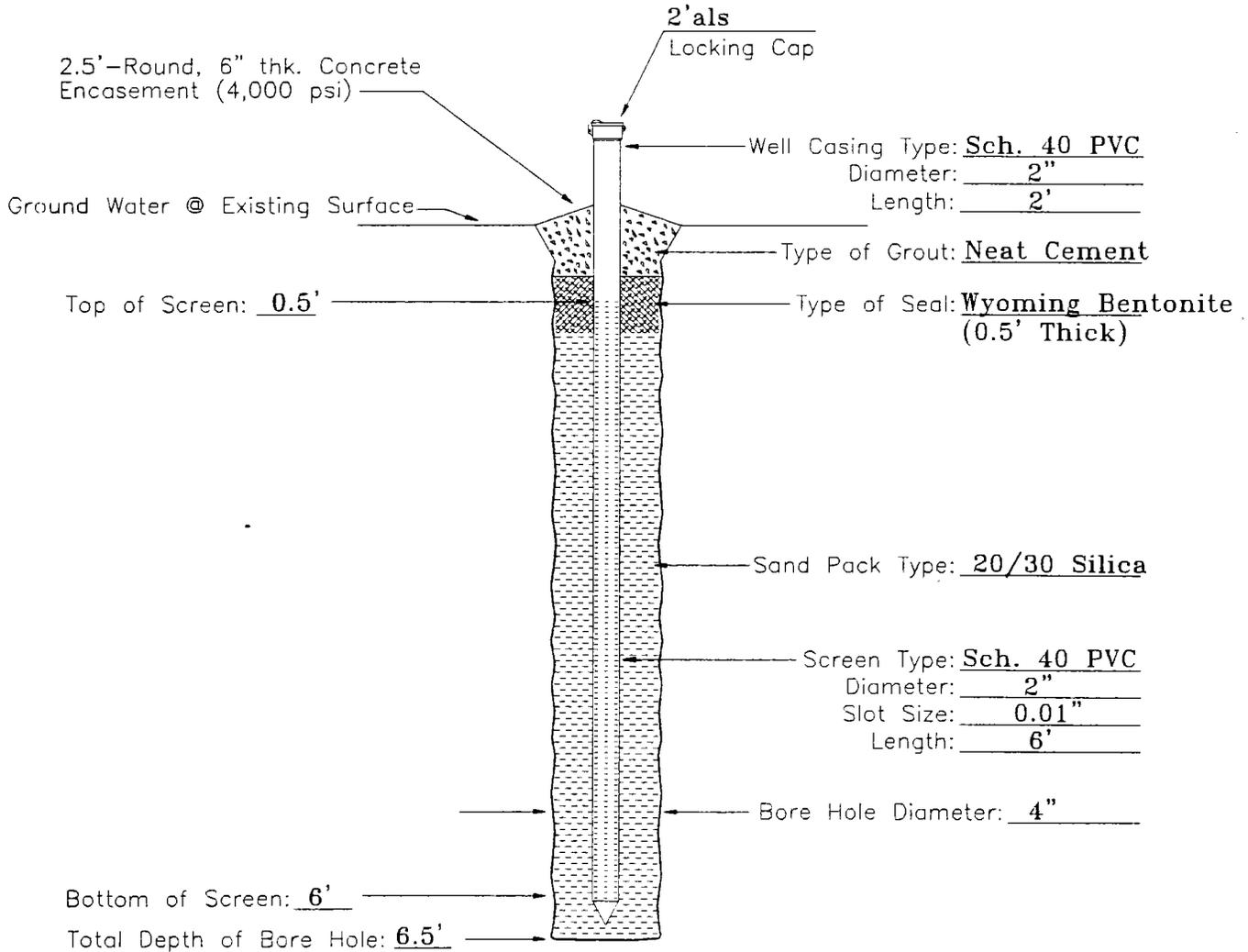
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

LOGGED BY: Patrick J. Brown
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Craig Griffey
WELL NUMBER: MW-13

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 19, Naval Air Station
JOB NUMBER: N65114-95-D-2126
DATE Start: 03/27/97 Finish: 03/27/97
TIME Start: 1150 Finish: 1230

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE



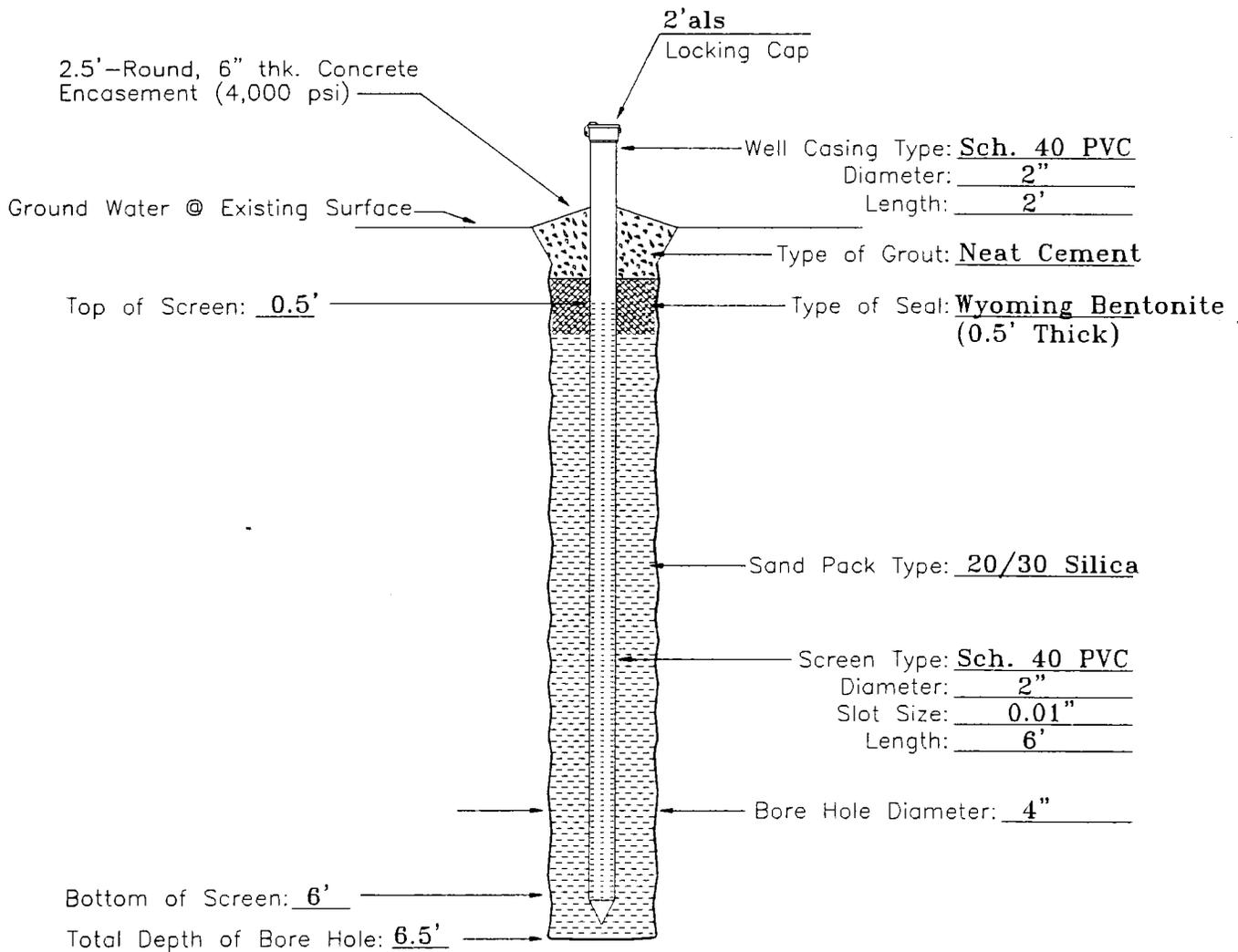
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
 Sarasota, FL 34240-8810
 (941) 371-7617
 (941) 378-5218 Fax

LOGGED BY: David M. Parker
 DRILLING CONTRACTOR: S. FL Test & Dr.
 DRILLER'S NAME: Craig Griffey
 WELL NUMBER: MW-14

CLIENT: NPWC, ROICC, NAS Pensacola, FL
 LOCATION: Site 19, Naval Air Station
 JOB NUMBER: N65114-95-D-2126
 DATE Start: 04/08/97 Finish: 04/08/97
 TIME Start: 1430 Finish: 1500

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE



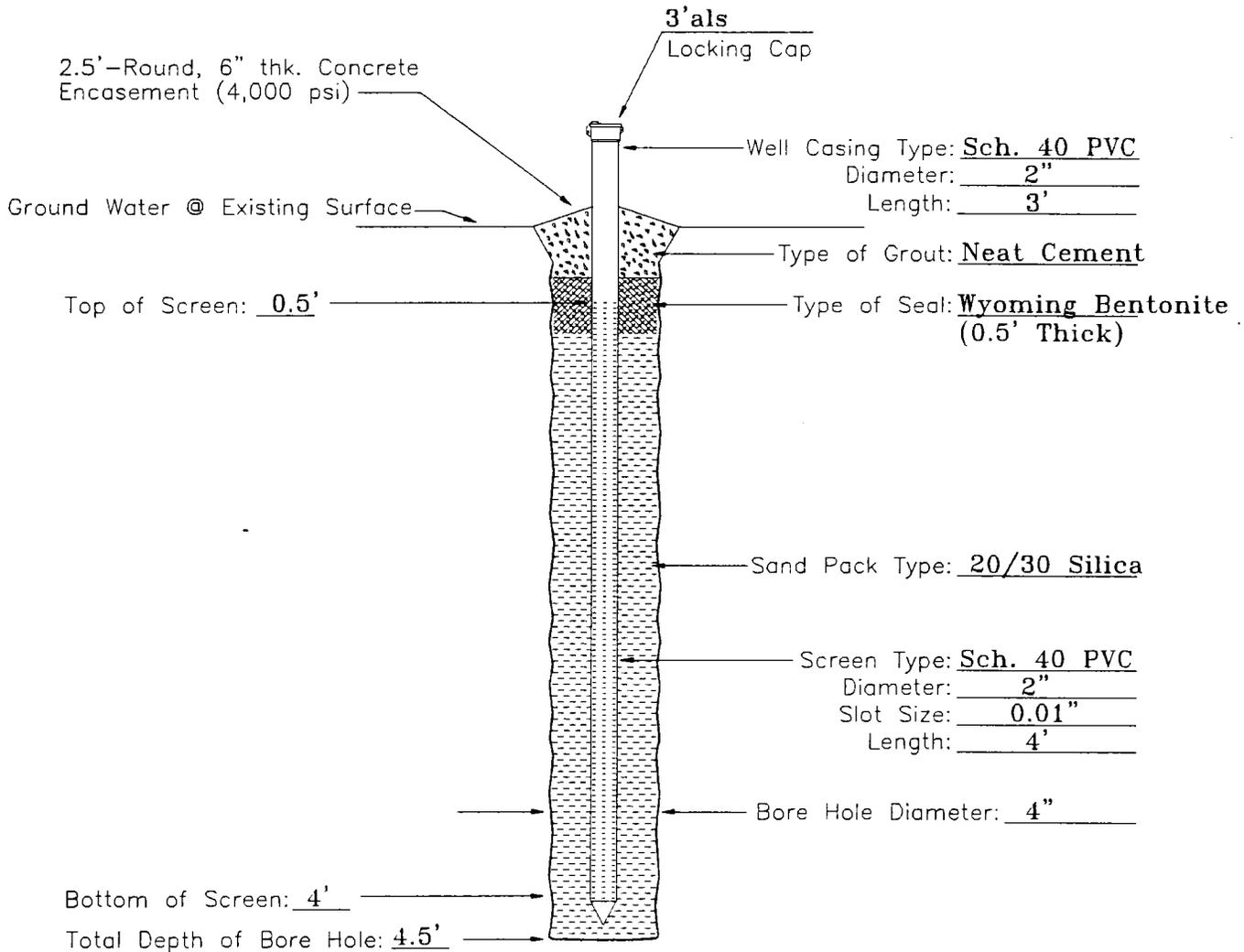
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
 Sarasota, FL 34240-8810
 (941) 371-7617
 (941) 378-5218 Fax

LOGGED BY: David M. Parker
 DRILLING CONTRACTOR: S. FL Test & Dr.
 DRILLER'S NAME: Craig Griffey
 WELL NUMBER: MW-15

CLIENT: NPWC, ROICC, NAS Pensacola, FL
 LOCATION: Site 19, Naval Air Station
 JOB NUMBER: N65114-95-D-2126
 DATE Start: 04/08/97 Finish: 04/08/97
 TIME Start: 1515 Finish: 1545

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE



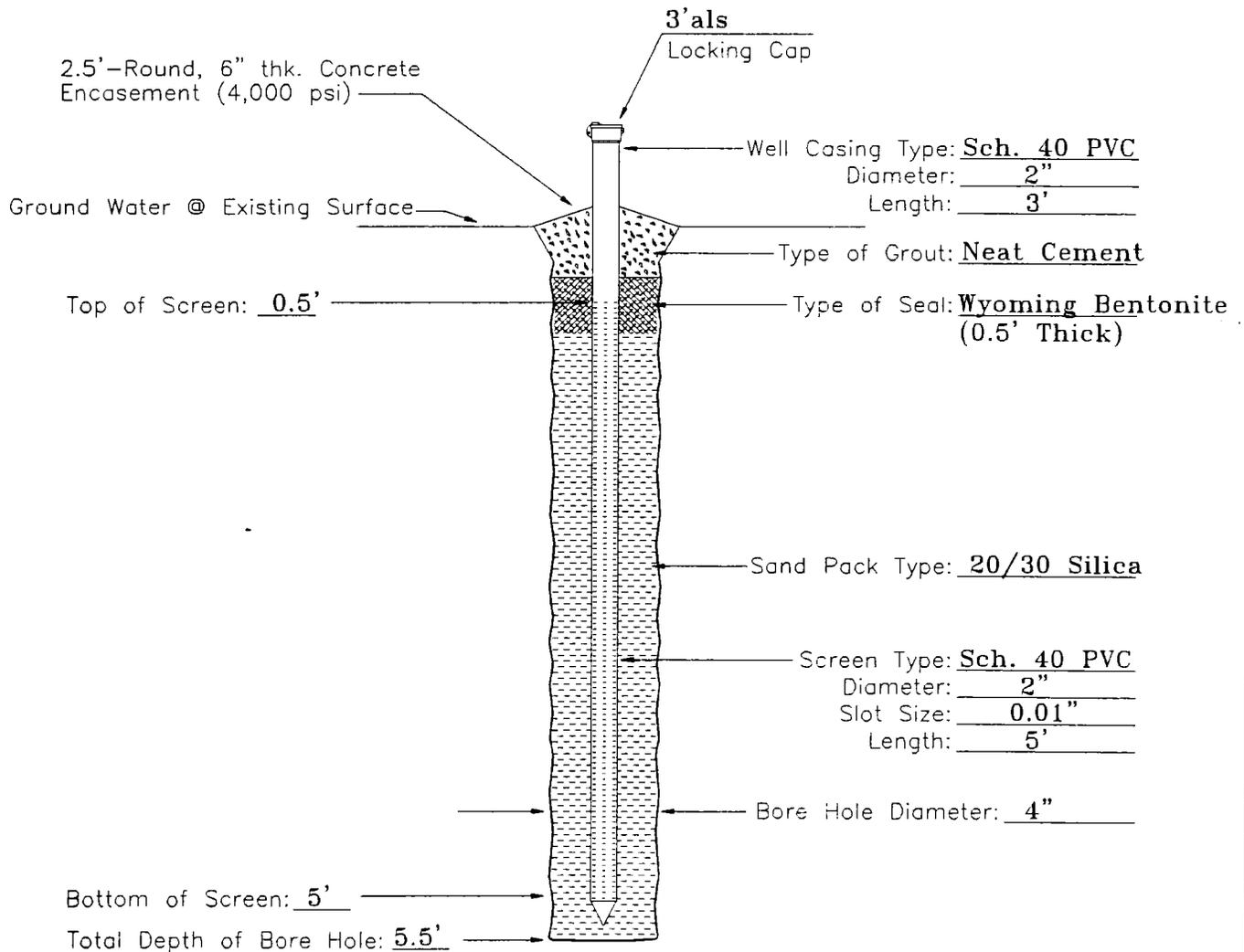
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
 Sarasota, FL 34240-8810
 (941) 371-7617
 (941) 378-5218 Fax

LOGGED BY: David M. Parker
 DRILLING CONTRACTOR: S. FL Test & Dr.
 DRILLER'S NAME: Craig Griffey
 WELL NUMBER: MW-16

CLIENT: NPWC, ROICC, NAS Pensacola, FL
 LOCATION: Site 19, Naval Air Station
 JOB NUMBER: N65114-95-D-2126
 DATE Start: 04/08/97 Finish: 04/08/97
 TIME Start: 1600 Finish: 1630

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE



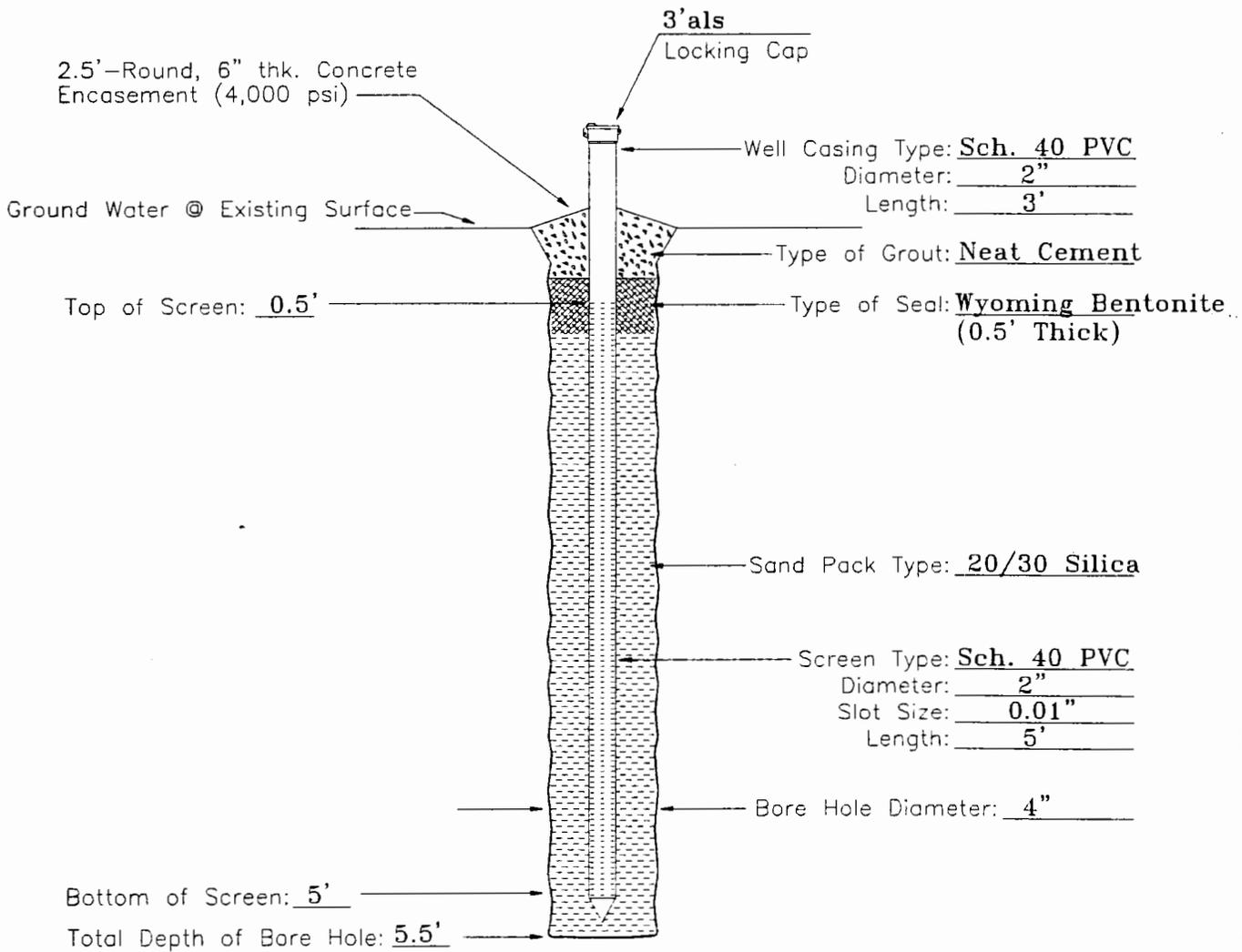
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
 Sarasota, FL 34240-8810
 (941) 371-7617
 (941) 378-5218 Fax

LOGGED BY: David M. Parker
 DRILLING CONTRACTOR: S. FL Test & Dr.
 DRILLER'S NAME: Craig Griffey
 WELL NUMBER: MW-17

CLIENT: NPWC, ROICC, NAS Pensacola, FL
 LOCATION: Site 19, Naval Air Station
 JOB NUMBER: N65114-95-D-2126
 DATE Start: 04/09/97 Finish: 04/09/97
 TIME Start: 1530 Finish: 1600

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE





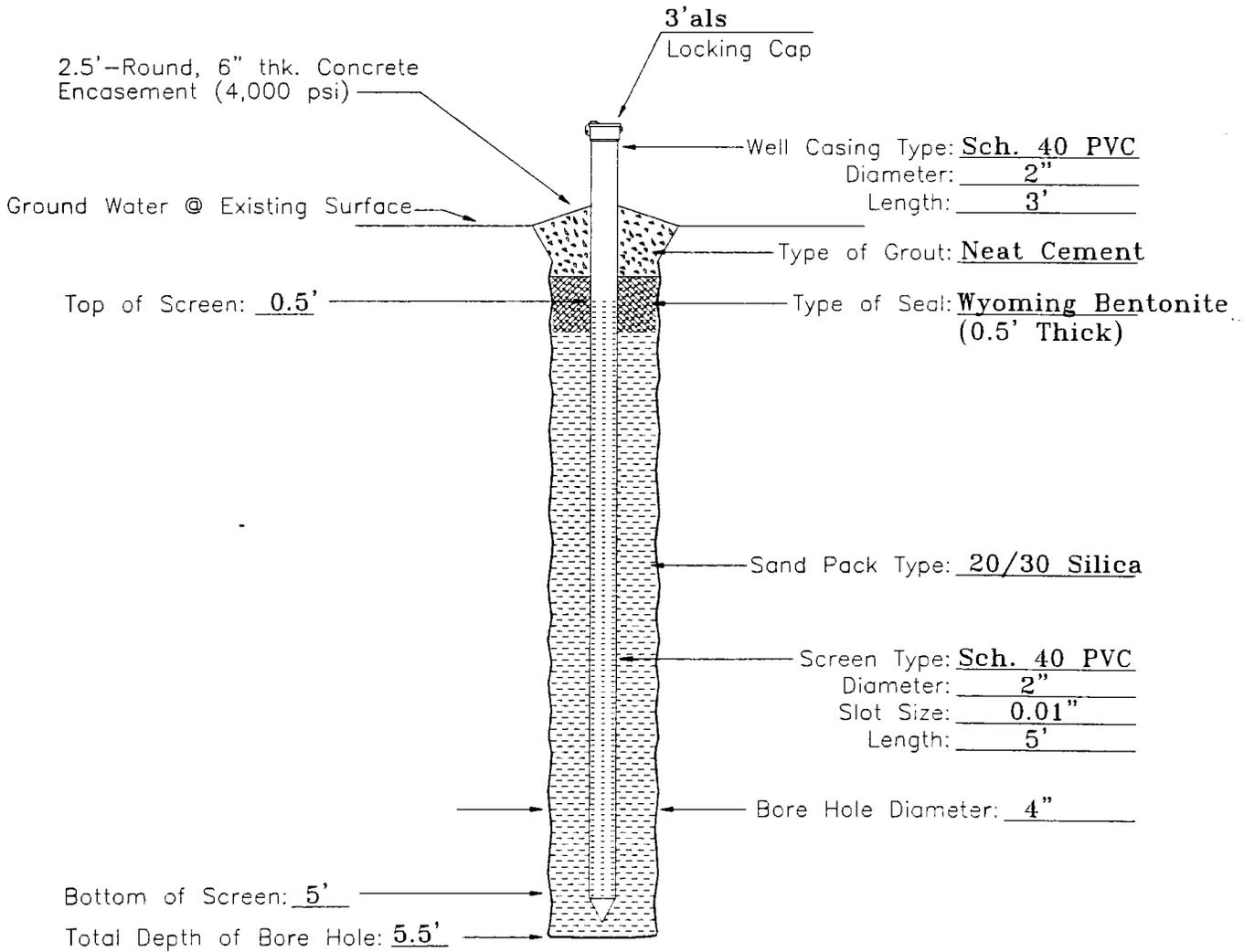
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

LOGGED BY: David M. Parker
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Craig Griffey
WELL NUMBER: MW-1B

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 19, Naval Air Station
JOB NUMBER: N65114-95-D-2126
DATE Start: 04/09/97 Finish: 04/09/97
TIME Start: 1600 Finish: 1615

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE



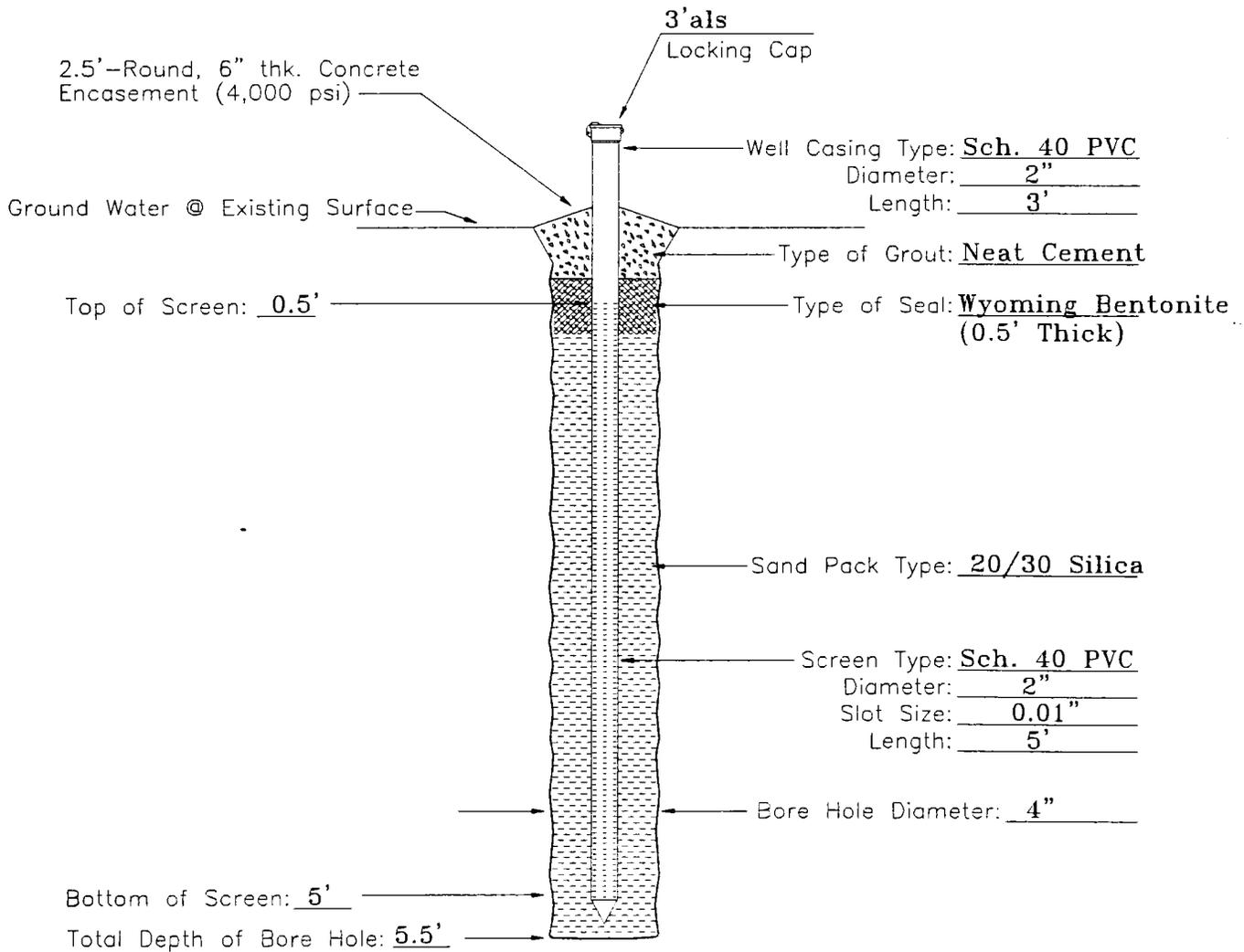
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
 Sarasota, FL 34240-8810
 (941) 371-7617
 (941) 378-5218 Fax

LOGGED BY: David M. Parker
 DRILLING CONTRACTOR: S. FL Test & Dr.
 DRILLER'S NAME: Craig Griffey
 WELL NUMBER: MW-19

CLIENT: NPWC, ROICC, NAS Pensacola, FL
 LOCATION: Site 19, Naval Air Station
 JOB NUMBER: N65114-95-D-2126
 DATE Start: 04/09/97 Finish: 04/09/97
 TIME Start: 1615 Finish: 1630

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE





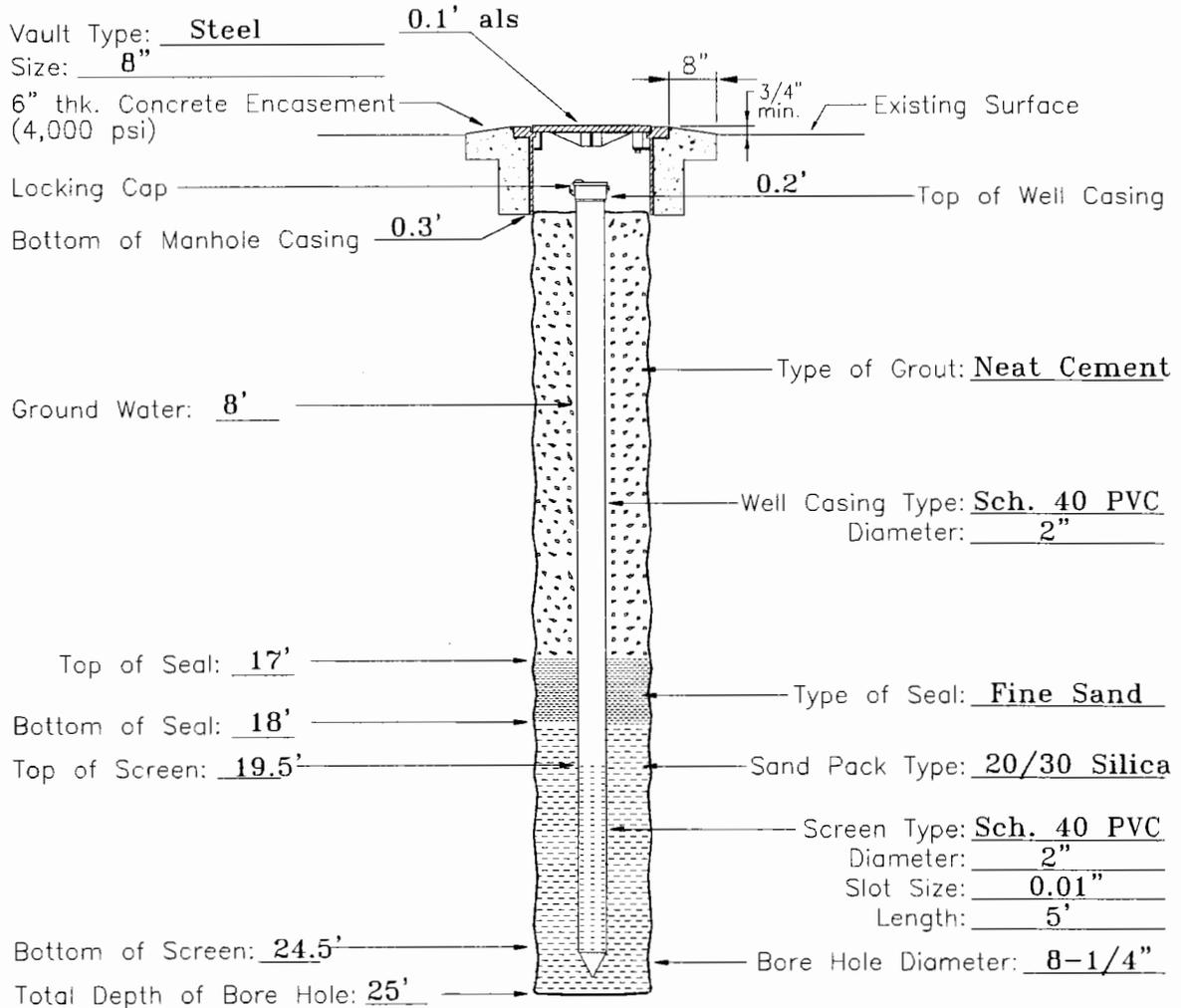
VERTICAL EXTENT MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

LOGGED BY: Patrick J. Brown
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Craig Griffey
WELL NUMBER: DMW-20

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 19, Naval Air Station
JOB NUMBER: N65114-95-D-2126
DATE Start: 05/28/97 Finish: 05/28/97
TIME Start: 1115 Finish: 1245

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

APPENDIX B

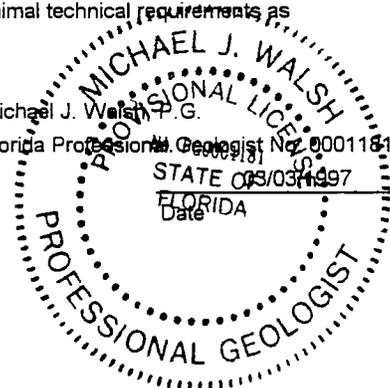
LITHOLOGIC LOGS

Site 19					LOGGED BY: Patrick J. Brown	SHEET 1 OF 1				
Naval Air Station					Contractor: WES, Inc.	Dr. Method: MOBILE				
Pensacola, Florida					Driller: WES Inc., Environmental Division	Dr. Rig: MOBILE				
MONITORING WELL NO.: MW-1					Start Date: 02/20/97	Completed: 02/20/97				
Delivery Order 0048					Start Time: 0900	Finish Time: 0950				
Contract No. N65114-95-D-2126					CONTAMINATION DATA					
T Y P E	N U M B	B O W	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER			
							W/O	WITH	NET	
P O S T H O L E H S A H A				100%	1	0'-1'; Brown, Medium, Silty sand mixed with shell fill	0	NR	0	
				100%	2	1'-2'; Dark Black Silty Sand with humus/decayed organic matter	0	NR	0	
			Water Table @ 3' BLS							
					4	2'-12'; Dark Black Silty Sand with humus/decayed organic matter				
					6					
					7					
					8					
					9					
					10					
					12	End of Boring @ 12' BLS				
					13					
					14					
					15					

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statutes.

Reviewed by:

Michael J. Walsh, P.G.
 Florida Professional Geologist No. 0001181
 STATE OF FLORIDA
 Date 03/03/97

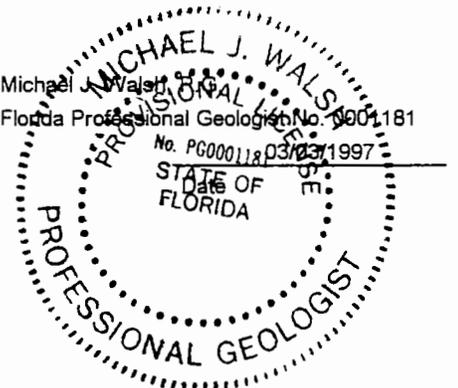


Site 19					LOGGED BY: Patrick J. Brown	SHEET 1 OF 1			
Naval Air Station					Contractor: WES, Inc.	Dr. Method: MOBILE			
Pensacola, Florida					Driller: WES Inc., Environmental Division	Dr. Rig: MOBILE			
MONITORING WELL NO.: MW-2					Start Date: 02/20/97	Completed: 02/20/97			
Delivery Order 0048					Start Time: 1000	Finish Time: 1050			
Contract No. N65114-95-D-2126					CONTAMINATION DATA				
T Y P E	N U M B E R	B O R E H O L E	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER		
							W/O	WITH	NET
P O S T H O L E				100%	1	0'-1'; Brown, Medium, Silty sand mixed with shell fill	0	NR	0
				100%	2	1'-2'; Dark Black Silty Sand with humus/decayed organic matter	0	NR	0
			Water Table @ 3' BLS						
H S A H A					4	2'-12'; Dark Black Silty Sand with humus/decayed organic matter			
					6				
					7				
					8				
					9				
					10				
					12	End of Boring @ 12' BLS			
					13				
					14				
					15				

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statutes.

Reviewed by:

Michael J. Walsh, P.G.
Florida Professional Geologist No. 0001181

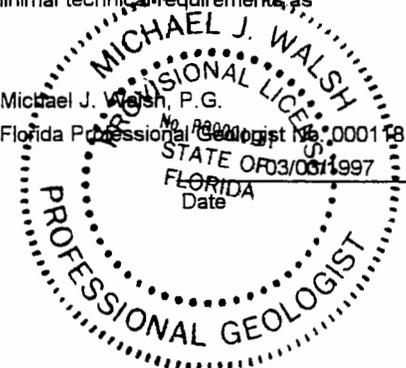


Site 19					LOGGED BY: Patrick J. Brown ✓	SHEET 1 OF 1					
Naval Air Station					Contractor: WES, Inc.	Dr. Method: MOBILE					
Pensacola, Florida					Driller: WES Inc., Environmental Division	Dr. Rig: MOBILE					
MONITORING WELL NO.: MW-3					Start Date: 02/20/97	Completed: 02/20/97					
					Start Time: 1100	Finish Time: 1150					
Delivery Order 0048					Contract No. N65114-95-D-2126			CONTAMINATION DATA			
T Y P E	N U M B E R	B O R E D I N G	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS		OVA RESULTS (PPM) CARBON FILTER	NOTES		
P O S T H O L E H S A H A				100%	1	0'-1'; Brown, Medium, Silty sand mixed with shell fill		W/O	WITH	NET	
				100%	2	1'-2'; Brown, Medium, Silty sand mixed with shell fill		0	NR	0	
			Water Table @ 3' BLS								
						4	2'-12'; Dark Black Silty Sand with humus/decayed organic matter				
						6					
						7					
						8					
						9					
						10					
						12	End of Boring @ 12' BLS				
						13					
						14					
						15					

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statutes.

Reviewed by:

Michael J. Walsh, P.G.
 Florida Professional Geologist No. 0001181
 STATE OF FLORIDA
 03/03/1997
 Date

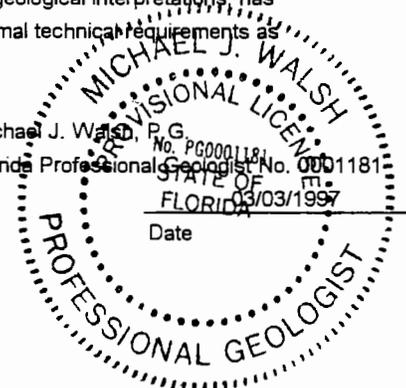


Site 19					LOGGED BY: Patrick J. Brown	SHEET 1 OF 1					
Naval Air Station					Contractor: WES, Inc.	Dr. Method: POST HOLE					
Pensacola, Florida					Driller: WES Inc., Environmental Division	Dr. Rig: NA					
MONITORING WELL NO.: MW-4					Start Date: 02/20/97	Completed: 02/20/97					
					Start Time: 1300	Finish Time: 1400					
Delivery Order 0048					Contract No. N65114-95-D-2126			CONTAMINATION DATA			
T Y P E	N U M B E R	B O R E D I N G	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS		OVA RESULTS (PPM) CARBON FILTER	NOTES		
P O S T H O L E H S A H A			Water Table @ Ground Level					W/O	WITH	NET	
				100%				22	1	21	
						2	0'-7'; Dark Black Silty Sand with humus/decayed organic matter				NOTE: Sample slightly wet due to proximity of water table
						4					
						6					
						7	End of Boring @ 7' BLS				
						8					
						9					
						10					
						12					
						13					
						14					
						15					

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statutes.

Reviewed by:

Michael J. Walsh, P.G.
 No. PG0001181
 Florida Professional Geologist No. 0001181
 STATE OF FLORIDA
 Date 03/03/1997

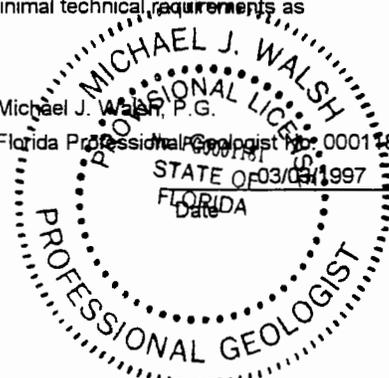


Site 19					LOGGED BY: Patrick J. Brown	SHEET 1 OF 1				
Naval Air Station					Contractor: WES, Inc.	Dr. Method: POST HOLE				
Pensacola, Florida					Driller: WES Inc., Environmental Division	Dr. Rig: NA				
MONITORING WELL NO.: MW-5					Start Date: 02/20/97	Completed: 02/20/97				
Delivery Order 0048					Start Time: 1400	Finish Time: 1500				
Contract No. N65114-95-D-2126					CONTAMINATION DATA					
T Y P E	N U M B	B L O W	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS		OVA RESULTS (PPM) CARBON FILTER	NOTES	
P O S T H O L E H S A H A			Water Table @ Ground Level					W/O	WITH	NET
				100%					0 NR	0
						0'-5'; Dark Black Silty Sand with humus/decayed organic matter				NOTE: Sample slightly wet due to proximity of water table
						End of Boring @ 5' BLS				

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statutes.

Reviewed by:

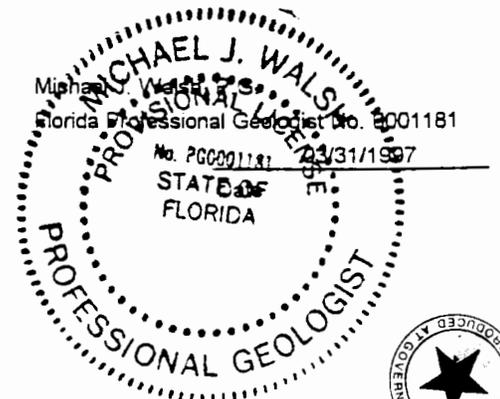
Michael J. Walsh, P.G.
 Florida Professional Geologist No. 0001181
 STATE OF FLORIDA
 Date 03/03/1997



Site 19					LOGGED BY: Patrick J. Brown	SHEET 1 OF 1				
Naval Air Station					Contractor: WES, Inc.	Dr. Method: MOBILE				
Pensacola, Florida					Driller: South Florida Testing & Drilling	Dr. Rig: MOBILE				
MONITORING WELL NO.: MW-6					Start Date: 03/26/97	Completed: 03/26/97				
Delivery Order 0049					Start Time: 1300	Finish Time: 1345				
Contract No. N65114-95-D-2126					CONTAMINATION DATA					
T Y P E	N U M B E R	B L O C K	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS NOTES			
							(PPM) CARBON FILTER			
P O S T H O L E H S A H A				100%	1	0'-1'; Brown, Medium, Silty sand mixed with shell fill	W/O	WITH	NET	
				100%	2	1'-2'; Dark Black Silty Sand with humus/decayed organic matter	0	NR	0	
			Water Table @ 3' BLS							
					4	2'-12'; Dark Black Silty Sand with humus/decayed organic matter				
					5					
					6					
					7					
					8					
					9					
					10					
					11					
					12	End of Boring @ 12' BLS				
					13					
					14					
					15					

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statutes.

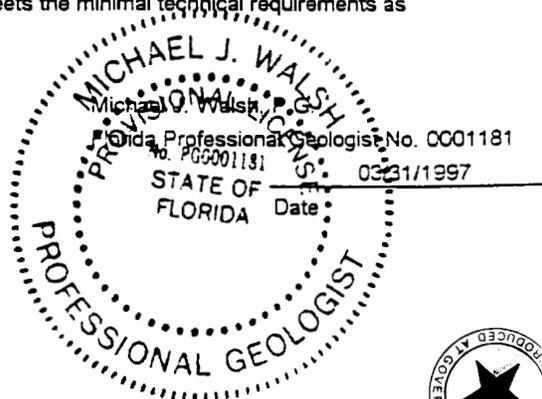
Reviewed by:



Site 19					LOGGED BY: Patrick J. Brown	SHEET 1 OF 1				
Naval Air Station					Contractor: WES, Inc.	Dr. Method: MOBILE				
Pensacola, Florida					Driller: South Florida Testing & Drilling	Dr. Rig: MOBILE				
MONITORING WELL NO.: MW-7					Start Date: 03/26/97	Completed: 03/26/97				
Delivery Order 0049					Start Time: 1345	Finish Time: 1430				
Contract No. N65114-95-D-2126					CONTAMINATION DATA					
T Y P E	N U M B	B L O W	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS NOTES			
							(PPM) CARBON FILTER		NOTES	
P O S T H O L E H S A H A				100%	1	0'-1'; Brown, Medium, Silty sand mixed with shell fill	W/O	WITH	NET	
				100%	2	1'-2'; Dark Black Silty Sand with humus/decayed organic matter	0	NR	0	
			Water Table @ 3' BLS							
					4	2'-12'; Dark Black Silty Sand with humus/decayed organic matter				
					5					
					6					
					7					
					8					
					9					
					10					
					11					
					12	End of Boring @ 12' BLS				
				13						
				14						
				15						

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statutes.

Reviewed by:

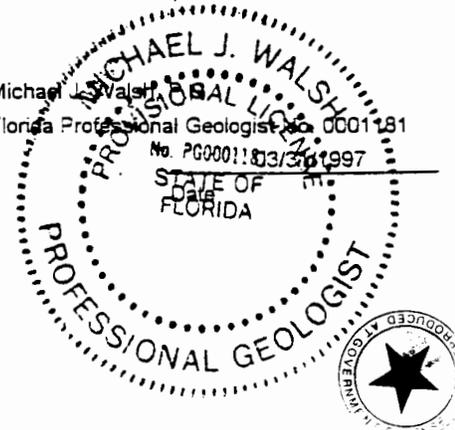


Site 19					LOGGED BY: Patrick J. Brown	SHEET 1 OF 1			
Naval Air Station					Contractor: WES, Inc.	Dr. Method: MOBILE			
Pensacola, Florida					Driller: South Florida Testing & Drilling	Dr. Rig: MOBILE			
MONITORING WELL NO.: MW-8					Start Date: 03/26/97	Completed: 03/26/97			
Delivery Order 0049					Start Time: 1430	Finish Time: 1515			
Contract No. N65114-95-D-2126					CONTAMINATION DATA				
T Y P E	N U M B	B L O W	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER	NOTES	
P O S T H O L E H S A H A				100%	1	0'-1'; Brown, Medium, Silty sand mixed with shell fill	W/O	WITH NR	NET 0
				100%	2	1'-2'; Dark Black Silty Sand with humus/decayed organic matter	0	NR	0
			Water Table @ 3' BLS						
					4	2'-12'; Dark Black Silty Sand with humus/decayed organic matter			
					5				
					6				
					7				
					8				
					9				
					10				
					11				
					12	End of Boring @ 12' BLS			
					13				
					14				
					15				

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statutes.

Reviewed by:

Michael J. Walsh, P.G.
 Florida Professional Geologist No. 0001181

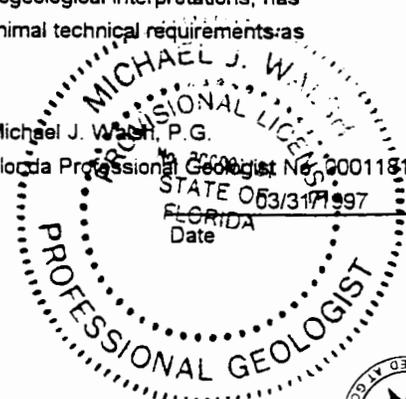


Site 19					LOGGED BY: Patrick J. Brown	SHEET 1 OF 1				
Naval Air Station					Contractor: WES, Inc.	Dr. Method: POST HOLE				
Pensacola, Florida					Driller: South Florida Testing & Drilling	Dr. Rig: NA				
MONITORING WELL NO.: MW-9					Start Date: 03/27/97	Completed: 03/27/97				
					Start Time: 0845	Finish Time: 0930				
Delivery Order 0049					Contract No. N65114-95-D-2126	CONTAMINATION DATA				
T Y P E	N U M B	B L O W	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER	NOTES		
P O S T H O L E H S A H A			Water Table @ Ground Level					W/O	WITH	NET
					1	0'-5'; Dark Black Silty Sand with humus/decayed organic matter				
					2					
					3					
					4					
					5	End of Boring @ 5' BLS				
					6					
					7					
					8					
					9					
					10					
					11					
					12					
					13					
					14					
				15						

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statutes.

Reviewed by:

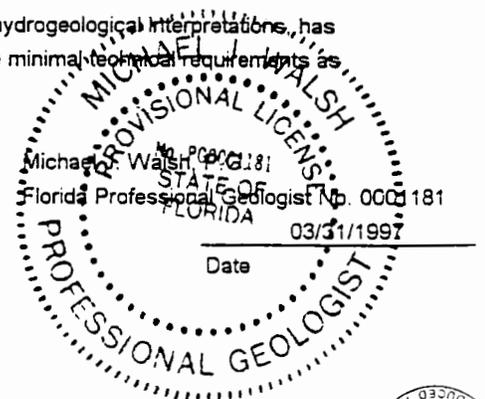
Michael J. Walsh, P.G.
 Florida Professional Geologist No. 0001181
 STATE OF FLORIDA
 Date 03/31/97



Site 19					LOGGED BY: Patrick J. Brown	SHEET 1 OF 1					
Naval Air Station					Contractor: WES, Inc.	Dr. Method: POST HOLE					
Pensacola, Florida					Driller: South Florida Testing & Drilling	Dr. Rig: NA					
MONITORING WELL NO.: MW-10					Start Date: 03/27/97	Completed: 03/27/97					
					Start Time: 0945	Finish Time: 1030					
Delivery Order 0049					Contract No. N65114-95-D-2126			CONTAMINATION DATA			
T Y P E	N U M B	B L O C K	SAMP. INTV. (FT.)	SAMP. REC. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS		OVA RESULTS (PPM) CARBON FILTER	NOTES		
P O S T H O L E H S A H A			Water Table @ Ground Level					W/O	WITH	NET	
					1	0'-6'; Dark Black Silty Sand with humus/decayed organic matter					
					2						
					3						
					4						
					5						
					6	End of Boring @ 6' BLS					
					7						
					8						
					9						
					10						
					11						
					12						
					13						
					14						
				15							

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statutes.

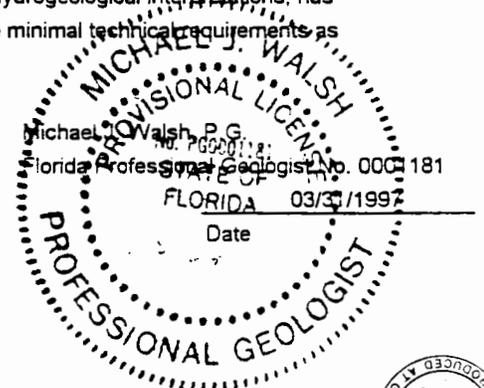
Reviewed by:



Site 19					LOGGED BY: Patrick J. Brown	SHEET 1 OF 1					
Naval Air Station					Contractor: WES, Inc.	Dr. Method: POST HOLE					
Pensacola, Florida					Driller: South Florida Testing & Drilling	Dr. Rig: NA					
MONITORING WELL NO.: MW-11					Start Date: 03/27/97	Completed: 03/27/97					
Delivery Order 0049					Start Time: 1045	Finish Time: 1115					
Contract No. N65114-95-D-2126					CONTAMINATION DATA						
TYPE	NUMBER	BLOW COUNT	SAMP. INTV. (FT.)	SAMP. REC. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER				
							NOTES	W/O	WITH	NET	
POST HOLE HSA HA			Water Table @ Ground Level								
					1	0'-7'; Dark Black Silty Sand with humus/decayed organic matter					
					2						
					3						
					4						
					5						
					6						
					7	End of Boring @ 7' BLS					
					8						
					9						
					10						
					11						
					12						
					13						
					14						
				15							

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statutes.

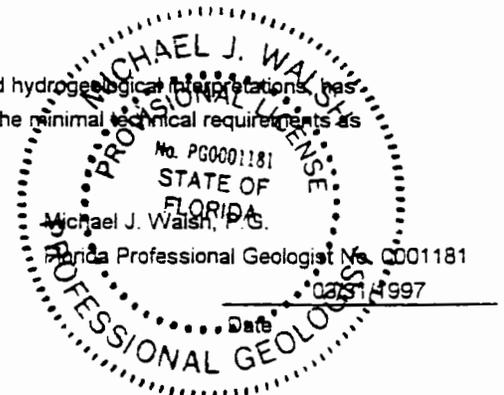
Reviewed by:



Site 19					LOGGED BY: Patrick J. Brown	SHEET 1 OF 1				
Naval Air Station					Contractor: WES, Inc.	Dr. Method: POST HOLE				
Pensacola, Florida					Driller: South Florida Testing & Drilling	Dr. Rig: NA				
MONITORING WELL NO.: MW-12					Start Date: 03/27/97	Completed: 03/27/97				
					Start Time: 1120	Finish Time: 1150				
Delivery Order 0049					Contract No. N65114-95-D-2126	CONTAMINATION DATA				
TYPE	N U M B	B L O W	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER			NOTES
							W/O	WITH	NET	
P O S T H O L E H S A H A			Water Table @ Ground Level							
					1					
					2	0'-7'; Dark Black Silty Sand with humus/decayed organic matter				
					3					
					4					
					5					
					6					
					7	End of Boring @ 7' BLS				
					8					
					9					
					10					
					11					
					12					
					13					
					14					
				15						

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statutes.

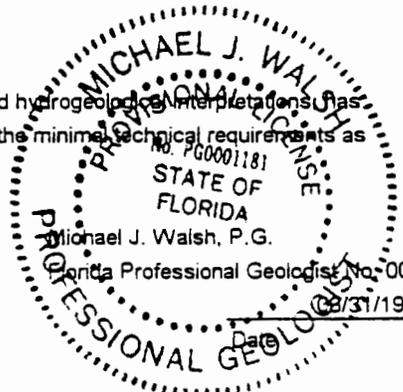
Reviewed by:



Site 19					LOGGED BY: Patrick J. Brown	SHEET 1 OF 1				
Naval Air Station					Contractor: WES, Inc.	Dr. Method: POST HOLE				
Pensacola, Florida					Driller: South Florida Testing & Drilling	Dr. Rig: NA				
MONITORING WELL NO.: MW-13					Start Date: 03/27/97	Completed: 03/27/97				
					Start Time: 1150	Finish Time: 1230				
Delivery Order 0049					Contract No. N65114-95-D-2126		CONTAMINATION DATA			
TYPE	NUMBER	BLOCK	SAMP. INTV. (FT.)	SAMP. REC. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER			
							W/O	WITH	NET	
POST HOLE HSA HA			Water Table @ Ground Level							
					1	0'-6'; Dark Black Silty Sand with humus/decayed organic matter				
					2					
					3					
					4					
					5					
					6		End of Boring @ 6' BLS			
					7					
					8					
					9					
					10					
					11					
					12					
					13					
					14					
				15						

I Certify that this lithological log, including geological and hydrogeological interpretations has been prepared under my direct supervision and meets the minimum technical requirements as set forth in Chapter 492 of the Florida Statutes.

Reviewed by:



Michael J. Walsh, P.G.
Florida Professional Geologist No. 0001181

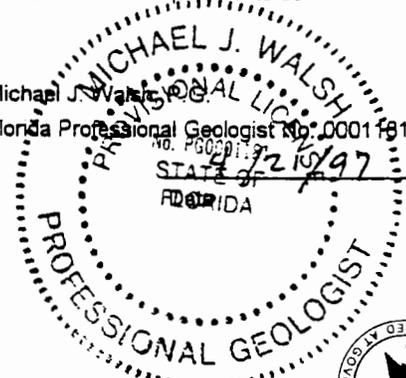


Site 19					LOGGED BY: David Parker	SHEET 1 OF 1				
Naval Air Station					Contractor: WES, Inc.	Dr. Method: POST HOLE				
Pensacola, Florida					Driller: South Florida Testing & Drilling	Dr. Rig: NA				
MONITORING WELL NO.: MW-14					Start Date: 04/08/97	Completed: 04/08/97				
Delivery Order 0050					Start Time: 1430	Finish Time: 1500				
Contract No. N65114-95-D-2126					CONTAMINATION DATA					
TYPE	NUMBER	BLOW	SAMP. INTV. (FT.)	SAMP. REC. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER			
							W/O	WITH	NET	
POST HOLE HSA HA			Water Table @ Ground Level							
					1	0'-6'; Dark Black Silty Sand with humus/decayed organic matter				
					2					
					3					
					4					
					5					
					6	End of Boring @ 6' BLS				
					7					
					8					
					9					
					10					
					11					
					12					
					13					
					14					
				15						

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statutes.

Reviewed by:

Michael J. Walsh, P.G.
 Florida Professional Geologist No. 0001181
 No. PG0001181
 STATE OF FLORIDA
 4/21/97

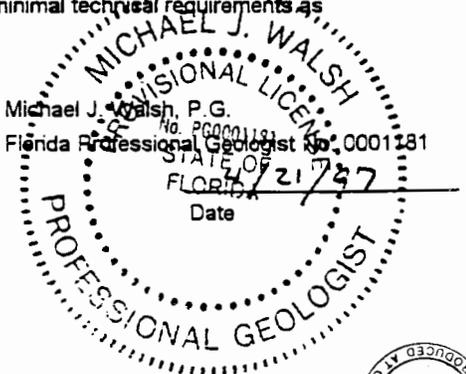


Site 19					LOGGED BY: David Parker	SHEET 1 OF 1				
Naval Air Station					Contractor: WES, Inc.	Dr. Method: POST HOLE				
Pensacola, Florida					Driller: South Florida Testing & Drilling	Dr. Rig: NA				
MONITORING WELL NO.: MW-15					Start Date: 04/08/97	Completed: 04/08/97				
Delivery Order 0050					Start Time: 1515	Finish Time: 1545				
Contract No. N65114-95-D-2126					CONTAMINATION DATA					
TYPE	NUMBER	BLOW COUNT	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM)			
							CARBON FILTER	NET	WITH	
POST HOLE			Water Table @ Ground Level							
					1					
					2	0'-4'; Dark Black Silty Sand with humus/decayed organic matter				
					3					
					4	End of Boring @ 4' BLS				
					5					
					6					
					7					
					8					
					9					
					10					
					11					
					12					
					13					
					14					
				15						

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statutes.

Reviewed by:

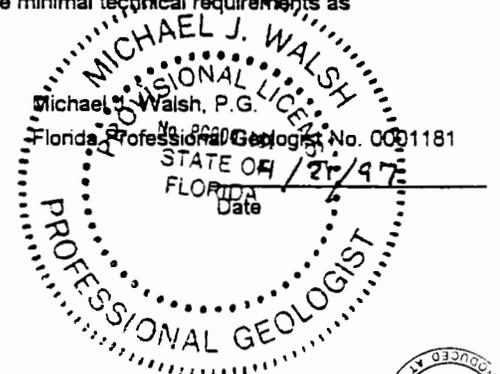
Michael J. Walsh, P.G.
 No. PG0001181
 Florida Professional Geologist No. 0001181
 STATE OF FLORIDA
 Date 4/21/97



Site 19					LOGGED BY: David Parker		SHEET 1 OF 1			
Naval Air Station					Contractor: WES, Inc.		Dr. Method: POST HOLE			
Pensacola, Florida					Driller: South Florida Testing & Drilling		Dr. Rig: NA			
MONITORING WELL NO.: MW-16					Start Date: 04/08/97		Completed: 04/08/97			
Delivery Order 0050					Start Time: 1600		Finish Time: 1630			
Contract No. N65114-95-D-2126					CONTAMINATION DATA					
T Y P E	N U M B E R	B L O C K	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS		OVA RESULTS (PPM) CARBON FILTER	NOTES	
P O S T H O L E H S A H A			Water Table @ Ground Level					W/O	WITH	NET
					1					
					2	0'-5'; Dark Black Silty Sand with humus/decayed organic matter				
					3					
					4					
					5	End of Boring @ 5' BLS				
					6					
					7					
					8					
					9					
					10					
					11					
					12					
					13					
					14					
				15						

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statutes.

Reviewed by:



Site 19					LOGGED BY: David Parker	SHEET 1 OF 1				
Naval Air Station					Contractor: WES, Inc.	Dr. Method: POST HOLE				
Pensacola, Florida					Driller: South Florida Testing & Drilling	Dr. Rig: NA				
MONITORING WELL NO.: MW-17					Start Date: 04/09/97	Completed: 04/09/97				
Delivery Order 0050					Start Time: 1530	Finish Time: 1600				
Contract No. N65114-95-D-2126					CONTAMINATION DATA					
TYPE	N	B	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM)			
							CARBON FILTER	NOTES		
P O S T H O L E H S A H A			Water Table @ Ground Level					W/O	WITH	NET
					1					
					2	0'-5'; Dark Black Silty Sand with humus/decayed organic matter				
					3					
					4					
					5	End of Boring @ 5' BLS				
					6					
					7					
					8					
					9					
					10					
					11					
					12					
					13					
					14					
				15						

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statutes.

Reviewed by:

Michael J. Walsh, P.G.
 Florida Professional Geologist No. 0001181
 Date: 4/25/97

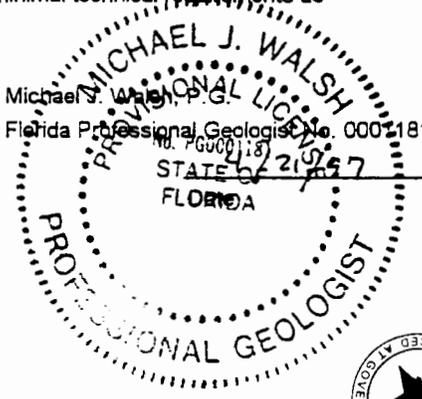


Site 19					LOGGED BY: David Parker	SHEET 1 OF 1					
Naval Air Station					Contractor: WES, Inc.	Dr. Method: POST HOLE					
Pensacola, Florida					Driller: South Florida Testing & Drilling	Dr. Rig: NA					
MONITORING WELL NO.: MW-18					Start Date: 04/09/97	Completed: 04/09/97					
Delivery Order 0050					Start Time: 1600	Finish Time: 1615					
Contract No. N65114-95-D-2126					CONTAMINATION DATA						
TYPE	N	B	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS			OVA RESULTS (PPM) CARBON FILTER		NOTES
						W/O	WITH	NET			
POST HOLE HSAHA			Water Table @ Ground Level								
					1	0'-5'; Dark Black Silty Sand with humus/decayed organic matter					
					2						
					3						
					4						
					5						
						End of Boring @ 5' BLS					
					6						
					7						
					8						
					9						
					10						
					11						
					12						
					13						
				14							
				15							

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statutes.

Reviewed by:

Michael J. Walsh, P.G.
 Florida Professional Geologist No. 0002181
 No. PGUC0181
 STATE OF FLORIDA
 4/21/97

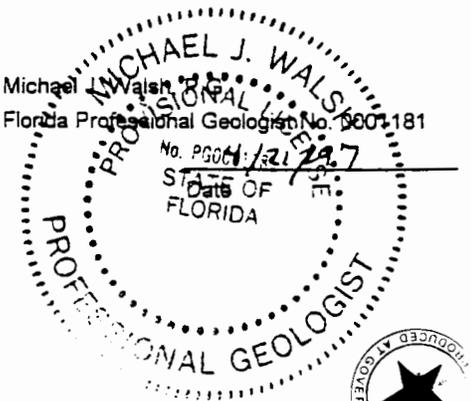


Site 19					LOGGED BY: David Parker	SHEET 1 OF 1			
Naval Air Station					Contractor: WES, Inc.	Dr. Method: POST HOLE			
Pensacola, Florida					Driller: South Florida Testing & Drilling	Dr. Rig: NA			
MONITORING WELL NO.: MW-19					Start Date: 04/09/97	Completed: 04/09/97			
Delivery Order 0050					Start Time: 1615	Finish Time: 1630			
Contract No. N65114-95-D-2126					CONTAMINATION DATA				
T Y P E	N U M B E R	B L O C K	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER	NOTES	
P O S T H O L E H S A H A			Water Table @ Ground Level				W/O	WITH	NET
					1				
					2	0'-5'; Dark Black Silty Sand with humus/decayed organic matter			
					3				
					4				
					5	End of Boring @ 5' BLS			
					6				
					7				
					8				
					9				
					10				
					11				
					12				
					13				
					14				
				15					

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statutes.

Reviewed by:

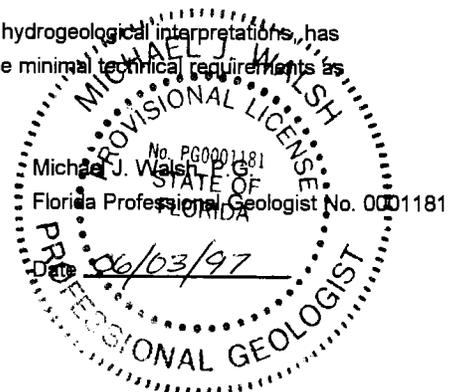
Michael J. Walsby
Florida Professional Geologist No. 9007181



Site 19					LOGGED BY: Patrick J. Brown	SHEET 1 OF 1					
Naval Air Station					Contractor: WES, Inc.	Dr. Method: HSA					
Pensacola, Florida					Driller: South Florida Testing & Drilling	Dr. Rig: Mobile					
MONITOR WELL NO.: DMW-20					Start Date: 05/28/97	Completed: 05/28/97					
Delivery Order 0053					Start Time: 1115	Finish Time: 1245					
Contract No. N65114-95-D-2126					CONTAMINATION DATA						
T Y P E	N U M B E R	B O R E W E L L	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS			OVA RESULTS (PPM) CARBON FILTER		NOTES
						W/O	WITH	NET			
P O S T H O L E H S A H A				100%	1	0'-1'; Dark Brown, Silty, Fine Sand w/ Humus.	20	20	0		
					6	1'-15'; Dark Brown, Silty, Fine Sand. High Organic Content.					
					10						
					14	15'-18'; Lense of Peat. Cohesive, Organic.					
					18	18'-24.5'; Reddish Brown, Silty, Fine Sand.					
					22						
					26	End of Boring @ 24' bls					

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statutes.

Reviewed by:



APPENDIX C

GROUNDWATER FLOW VELOCITY CALCULATIONS

GROUNDWATER FLOW VELOCITY CALCULATIONS

$$V = Ki/n$$

Where
V = groundwater flow velocity
K = hydraulic conductivity* (as an average of Geraghty & Miller [1987], Site 3810 N [1992] and Site 3221 SW [1993] = 48.3 ft/day)
i = gradient (elevation/distance between MW-2 and MW-4)
n = porosity, estimated at 25%

$$\text{August 16, 1997} \quad i = \frac{24.80' - 24.65'}{158.3'} = 0.00095 \text{ ft/ft}$$

$$\text{Hydraulic gradient} = i = 0.00095 \text{ ft/ft}$$

$$\text{Average Velocity} = V = \frac{48.3 \text{ ft/day} \times 0.00095 \text{ ft/ft}}{0.25} = 0.184 \text{ ft/day}$$

* Geraghty and Miller. January 1987. Evaluation of Hydrocarbons in Shallow Ground Water from Aviation Turbine Fuel (JP-5) Pipeline Leak at the NAS Pensacola, Florida.

Roger Durham. August 1992. Contamination Assessment Report: Site 3801 N Naval Aviation Depot, Naval Air Station, Pensacola, Florida.

Roger Durham and Pamela J. Wagner. February 1993. Contamination Assessment Report: Site 3221 SW, Naval Aviation Depot, Naval Air Station, Pensacola, Florida.

APPENDIX D

SOIL AND GROUNDWATER ANALYTICAL RESULTS

Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 70845
Sample Date: 02/26/97
Received Date: 02/26/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 70845			
Sample Name / Location	NAS 19 MW-1			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 0900			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	02/28/97 JM			
Date of Analysis	02/28/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 70845	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	100
Toluene-d8	86-119	100
Bromofluorobenzene	85-116	102

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :

Jerry Dees
Jerry Dees, Laboratory Director

Date: 3/11/97

Report Generated

End of Report



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 70845
Sample Date: 02/26/97
Received Date: 02/26/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 70845			
Sample Name / Location	NAS 19 MW-1			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 0900			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	02/27/97 JJ			
Date of Analysis	02/28/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 70845	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	BDL	ug/L	2	
2-Methylnaphthalene	BDL	ug/L	3	
Naphthalene	BDL	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

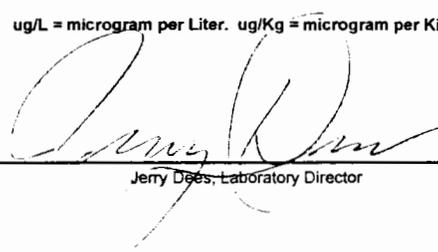
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	60
2-Fluorobiphenyl	43-116	68
Terphenyl -d14	33-141	90

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :


Jerry Dees, Laboratory Director

Date: 3/11/97

Report Generated



Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 70845
 Sample Date: 02/26/97
 Received Date: 02/26/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 70845			
Sample Name / Location	NAS 19 MW-1			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 0900			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	03/05/97 MC			
Date of Analysis	03/05/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 70845	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

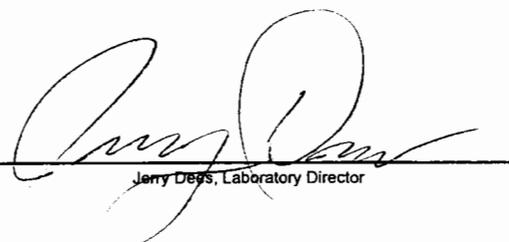
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	77

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 3/11/97

Report Generated



Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 70845
 Sample Date: 02/26/97
 Received Date: 02/26/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 70845			
Sample Name / Location	NAS 19 MW-1			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 0900			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of extraction / Initials	03/06/97 JJ			
Date of Analysis	03/10/97			
Sample Matrix	GW			
Dilution	x 1			
Parameter	1- 70845	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	0.25	

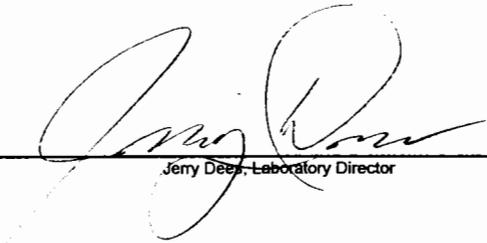
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	87
Nonatriacontane (C-39)	42-193 *	67

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :



 Jerry Deen, Laboratory Director

Date: 3/11/97



Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 70846
 Sample Date: 02/26/97
 Received Date: 02/26/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 70846			
Sample Name / Location	NAS 19 MW-2			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 0915			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	02/27/97 JM			
Date of Analysis	02/27/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 70846	units	Det. Limit	Flags
Benzene	180	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	390	ug/L	10	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	390	ug/L	10	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	3070	ug/L	10	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	98
Toluene-d8	86-119	102
Bromofluorobenzene	85-116	98

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :

Jerry Dees
 Jerry Dees, Laboratory Director

D-5

Date: 3/12/97

Report Generated

End of Report



Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 70846
 Sample Date: 02/26/97
 Received Date: 02/26/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 70846			
Sample Name / Location	NAS 19 MW-2			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 0915			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	02/27/97 JJ			
Date of Analysis	02/28/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 70846	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	4	ug/L	2	
Fluorene	3	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	50	ug/L	2	
2-Methylnaphthalene	74	ug/L	3	
Naphthalene	81	ug/L	2	
Phenanthrene	5	ug/L	2	
Pyrene	3	ug/L	2	

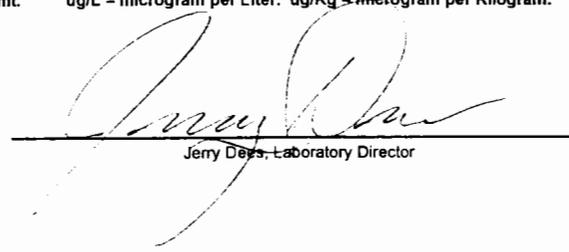
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	70
2-Fluorobiphenyl	43-116	70
Terphenyl -d14	33-141	70

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :



Jerry Dees, Laboratory Director

Date: 3/12/97

Report Generated

D-6



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 70846
 Sample Date: 02/26/97
 Received Date: 02/26/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 70846			
Sample Name / Location	NAS 19 MW-2			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 0915			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	03/05/97 MC			
Date of Analysis	03/05/97			
Sample Matrix	GW			
Dilution	X		1	
Compound Name	1- 70846	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

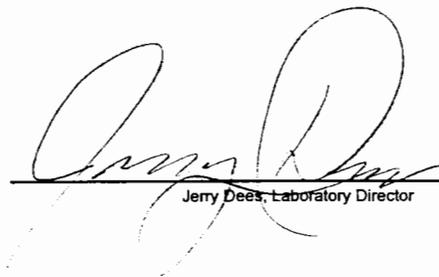
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	52*

COMMENTS : * = Surrogate failure due to matrix interference.

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :


 Jerry Dees, Laboratory Director

Date: 3/13/97

Report Generated



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 70846
Sample Date: 02/26/97
Received Date: 02/26/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 70846			
Sample Name / Location	NAS 19 MW-2			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 0915			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of extraction / Initials	03/06/97 JJ			
Date of Analysis	03/09/97			
Sample Matrix	GW			
Dilution	x 10			
Parameter	1- 70846	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	18	mg/L	2.5	

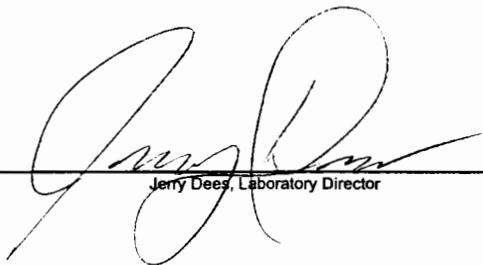
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	95
Nonatriacontane (C-39)	42-193 *	71

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 3/13/97



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 70847
Sample Date: 02/26/97
Received Date: 02/26/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 70847			
Sample Name / Location	NAS 19 MW-3			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 0930			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	02/27/97, 03/01/97 JM			
Date of Analysis	02/27/97, 03/01/97			
Sample Matrix	GW			
Dilution	X 10			
Compound Name	1-	70847	units	Det. Limit Flags
Benzene	1200		ug/L	10
Bromodichloromethane	BDL		ug/L	10
Bromoform	BDL		ug/L	20
Bromomethane	BDL		ug/L	30
Carbon Tetrachloride	BDL		ug/L	10
Chlorobenzene	BDL		ug/L	10
Chloroethane	BDL		ug/L	10
2-Chloroethylvinyl ether	BDL		ug/L	10
Chloroform	BDL		ug/L	10
Chloromethane	BDL		ug/L	10
Dibromochloromethane	BDL		ug/L	10
1,2-Dichlorobenzene	BDL		ug/L	10
1,3-Dichlorobenzene	BDL		ug/L	10
1,4-Dichlorobenzene	BDL		ug/L	10
Dichlorodifluoromethane	BDL		ug/L	10
1,1-Dichloroethane	BDL		ug/L	10
1,2-Dichloroethane	BDL		ug/L	10
1,1-Dichloroethene	BDL		ug/L	10
trans-1,2-Dichloroethene	BDL		ug/L	10
1,2-Dichloropropane	BDL		ug/L	10
cis-1,3-Dichloropropene	BDL		ug/L	10
trans-1,3-Dichloropropene	BDL		ug/L	10
Ethylbenzene	560		ug/L	10
Methylene Chloride	BDL		ug/L	10
Methyl-tert-butyl ether (MTBE) *	BDL		ug/l	10
1,1,2,2-Tetrachloroethane	BDL		ug/L	10
Tetrachloroethene	BDL		ug/L	10
Toluene	2400		ug/L	20
1,1,1-Trichloroethane	BDL		ug/L	10
1,1,2-Trichloroethane	BDL		ug/L	10
Trichloroethene	BDL		ug/L	10
Trichlorofluoromethane	BDL		ug/L	10
Vinyl Chloride	BDL		ug/L	10
Xylenes (Total)	4700		ug/L	10

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	109
Toluene-d8	86-119	100
Bromofluorobenzene	85-116	102

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :

Jerry Dees
Jerry Dees, Laboratory Director

Date: 3/12/97

Report Generated



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 70847
Sample Date: 02/26/97
Received Date: 02/26/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 70847			
Sample Name / Location	NAS 19 MW-3			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 0930			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	02/27/97 JJ			
Date of Analysis	02/28/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 70847	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	38	ug/L	2	
2-Methylnaphthalene	52	ug/L	3	
Naphthalene	93	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

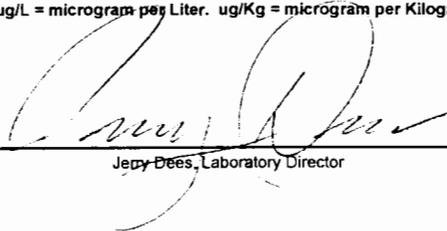
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	89
2-Fluorobiphenyl	43-116	91
Terphenyl -d14	33-141	84

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :



Jerry Dees, Laboratory Director

Date: 3/12/97

Report Generated



Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 70847
 Sample Date: 02/28/97
 Received Date: 02/26/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 70847			
Sample Name / Location	NAS 19 MW-3			
Collector's Name	PJB			
Date & Time Collected	02/28/97 @ 0930			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	03/05/97 MC			
Date of Analysis	03/05/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 70847	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

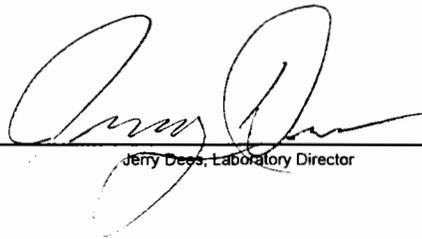
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	63

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 3/12/97

Report Generated



Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 70847
 Sample Date: 02/26/97
 Received Date: 02/26/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 70847			
Sample Name / Location	NAS 19 MW-3			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 0930			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of extraction / Initials	03/06/97 JJ			
Date of Analysis	03/09/97			
Sample Matrix	GW			
Dilution	x 20			
Parameter	1- 70847	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	31	mg/L	5	

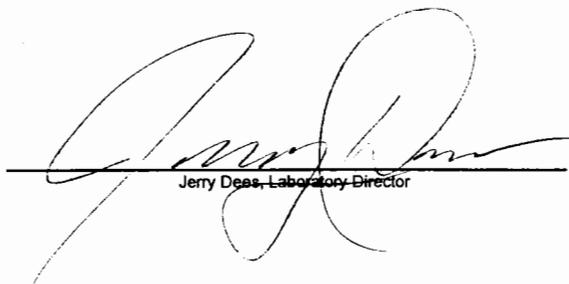
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	92
Nonatriacontane (C-39)	42-193 *	90

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :



Jerry Deas, Laboratory Director

Date: 3/13/97



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 70848
Sample Date: 02/26/97
Received Date: 02/26/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 70848			
Sample Name / Location	NAS 19 MW-4			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 0945			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	02/27/97 JM			
Date of Analysis	02/27/97			
Sample Matrix	GW			
Dilution	X 10			
Compound Name	1- 70848	units	Det. Limit	Flags
Benzene	17	ug/L	10	
Bromodichloromethane	BDL	ug/L	10	
Bromoform	BDL	ug/L	20	
Bromomethane	BDL	ug/L	30	
Carbon Tetrachloride	BDL	ug/L	10	
Chlorobenzene	BDL	ug/L	10	
Chloroethane	BDL	ug/L	10	
2-Chloroethylvinyl ether	BDL	ug/L	10	
Chloroform	BDL	ug/L	10	
Chloromethane	BDL	ug/L	10	
Dibromochloromethane	BDL	ug/L	10	
1,2-Dichlorobenzene	BDL	ug/L	10	
1,3-Dichlorobenzene	BDL	ug/L	10	
1,4-Dichlorobenzene	BDL	ug/L	10	
Dichlorodifluoromethane	BDL	ug/L	10	
1,1-Dichloroethane	BDL	ug/L	10	
1,2-Dichloroethane	BDL	ug/L	10	
1,1-Dichloroethene	BDL	ug/L	10	
trans-1,2-Dichloroethene	BDL	ug/L	10	
1,2-Dichloropropane	BDL	ug/L	10	
cis-1,3-Dichloropropene	BDL	ug/L	10	
trans-1,3-Dichloropropene	BDL	ug/L	10	
Ethylbenzene	99	ug/L	10	
Methylene Chloride	BDL	ug/L	10	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/l	10	
1,1,2,2-Tetrachloroethane	BDL	ug/L	10	
Tetrachloroethene	BDL	ug/L	10	
Toluene	240	ug/L	20	
1,1,1-Trichloroethane	BDL	ug/L	10	
1,1,2-Trichloroethane	BDL	ug/L	10	
Trichloroethene	BDL	ug/L	10	
Trichlorofluoromethane	BDL	ug/L	10	
Vinyl Chloride	BDL	ug/L	10	
Xylenes (Total)	870	ug/L	10	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	108
Toluene-d8	86-119	99
Bromofluorobenzene	85-116	103

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :

Jerry Dees
Jerry Dees, Laboratory Director

Date: 3/12/97

Report Generated

End of Report



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 70848
Sample Date: 02/26/97
Received Date: 02/26/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 70848			
Sample Name / Location	NAS 19 MW-4			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 0945			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	02/27/97 JJ			
Date of Analysis	02/28/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 70848	units	Det. Limit	Flags
Acenaphthene	11	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	4	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	21	ug/L	2	
2-Methylnaphthalene	47	ug/L	3	
Naphthalene	53	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

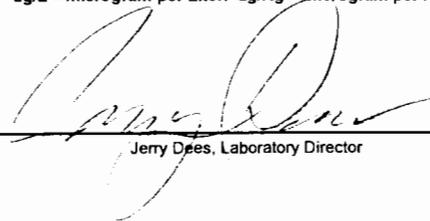
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	90
2-Fluorobiphenyl	43-116	78
Terphenyl -d14	33-141	71

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :



Jerry Dees, Laboratory Director

Date: 3/12/97

Report Generated



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 70848
Sample Date: 02/26/97
Received Date: 02/26/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 70848			
Sample Name / Location	NAS 19 MW-4			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 0945			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	03/05/97 MC			
Date of Analysis	03/05/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 70848	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

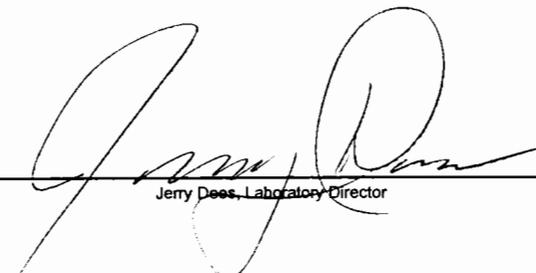
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	35*

COMMENTS : * = Surrogate failure due to matrix interference.

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 3/13/97

Report Generated



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 70848
 Sample Date: 02/26/97
 Received Date: 02/26/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 70848			
Sample Name / Location	NAS 19 MW-4			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 0945			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of extraction / Initials	03/06/97 JJ			
Date of Analysis	03/09/97			
Sample Matrix	GW			
Dilution	x 20			
Parameter	1- 70848	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	35	mg/L	5	

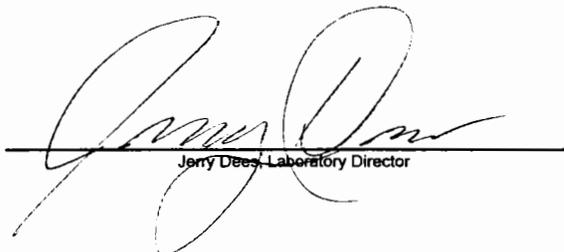
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	91
Nonatriacontane (C-39)	42-193 *	71

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :


 Jerry Dees, Laboratory Director

Date: 3/12/97



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 70849
Sample Date: 02/26/97
Received Date: 02/26/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 70849			
Sample Name / Location	NAS 19 MW-5			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 1000			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	02/28/97 JM			
Date of Analysis	02/28/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 70849	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	101
Toluene-d8	86-119	101
Bromofluorobenzene	85-116	103

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :

Jerry Dees
Jerry Dees, Laboratory Director

Date: 3/12/97

Report Generated

End of Report



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 70849
Sample Date: 02/26/97
Received Date: 02/26/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 70849			
Sample Name / Location	NAS 19 MW-5			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 1000			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	02/27/97 JJ			
Date of Analysis	02/28/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 70849	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	BDL	ug/L	2	
2-Methylnaphthalene	BDL	ug/L	3	
Naphthalene	BDL	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

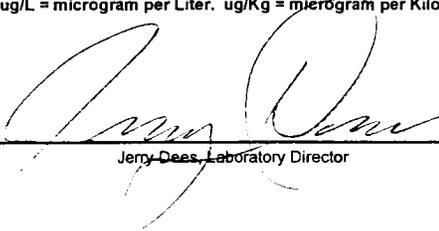
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	72
2-Fluorobiphenyl	43-116	83
Terphenyl -d14	33-141	86

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :


Jerry Dees, Laboratory Director

Date: 3/12/97

Report Generated

D-18



**Navy Public Works Center
Environmental Laboratory**

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 70849
Sample Date: 02/26/97
Received Date: 02/26/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 70849			
Sample Name / Location	NAS 19 MW-5			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 1000			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	03/05/97 MC			
Date of Analysis	03/05/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 70849	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

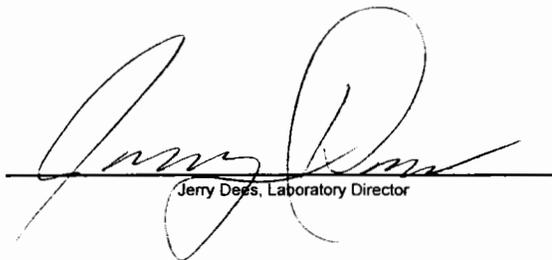
SURROGATE SPIKE RECOVERIES

Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene 54-140	50*

COMMENTS : * = Surrogate failure due to matrix interference.

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 3/13/97
Report Generated



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 70849
 Sample Date: 02/26/97
 Received Date: 02/26/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 70849			
Sample Name / Location	NAS 19 MW-5			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 1000			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of extraction / Initials	03/06/97 JJ			
Date of Analysis	03/08/97			
Sample Matrix	GW			
Dilution	x 1			
Parameter	1- 70849	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	0.25	

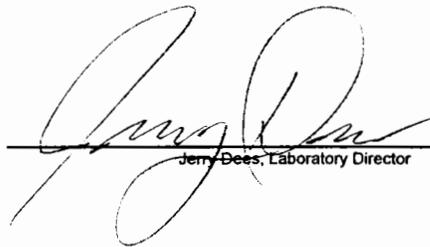
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	92
Nonatriacontane (C-39)	42-193 *	72

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :


 Jerry Dees, Laboratory Director

Date: 3/12/97



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 70844
Sample Date: 02/26/97
Received Date: 02/26/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 70844			
Sample Name / Location	NAS 19 Eq. Blank			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 0845			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	02/27/97 JM			
Date of Analysis	02/27/97			
Sample Matrix	DI			
Dilution	X 1			
Compound Name	1- 70844	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	5	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	4	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	105
Toluene-d8	86-119	101
Bromofluorobenzene	85-116	103

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :

Jerry Dees
Jerry Dees, Laboratory Director

Date: 3/11/97

Report Generated

End of Report



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 70844
Sample Date: 02/26/97
Received Date: 02/26/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 70844			
Sample Name / Location	NAS 19 Eq. Blank			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 0845			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	02/27/97 JJ			
Date of Analysis	02/28/97			
Sample Matrix	DI			
Dilution	X 1			
Compound Name	1- 70844	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	BDL	ug/L	2	
2-Methylnaphthalene	BDL	ug/L	3	
Naphthalene	BDL	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

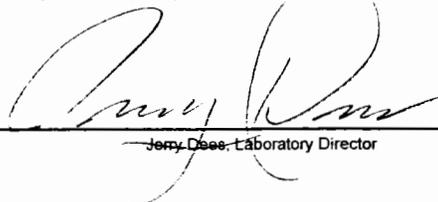
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	76
2-Fluorobiphenyl	43-116	90
Terphenyl -d14	.33-141	91

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :


Jerry Deas, Laboratory Director

Date: 3/11/97

Report Generated



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 70844
Sample Date: 02/26/97
Received Date: 02/26/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 70844			
Sample Name / Location	NAS 19 Eq. Blank			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 0845			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	03/05/97 MC			
Date of Analysis	03/05/97			
Sample Matrix	DI			
Dilution	X 1			
Compound Name	1- 70844	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

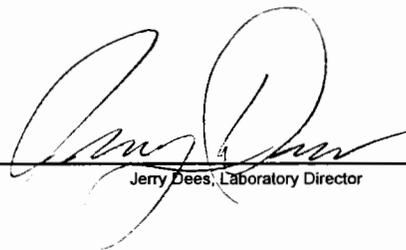
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	98

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 3/11/97

Report Generated



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 70844
Sample Date: 02/26/97
Received Date: 02/26/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 70844			
Sample Name / Location	NAS 19 Eq. Blank			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ 0845			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of extraction / Initials	03/06/97 JJ			
Date of Analysis	03/08/97			
Sample Matrix	DI			
Dilution	x 1			
Parameter	1- 70844	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	0.25	

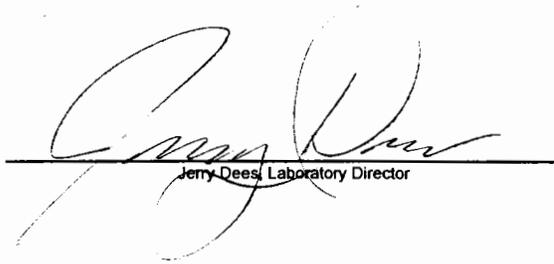
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	97
Nonatriacontane (C-39)	42-193 *	76

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :


Jerry Dees, Laboratory Director

Date: 3/11/97



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 70850
Sample Date: 02/26/97
Received Date: 02/26/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 70850			
Sample Name / Location	NAS 19 Duplicate			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ N/S			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	02/28/97, 03/01/97 JM			
Date of Analysis	02/28/97, 03/01/97			
Sample Matrix	GW			
Dilution	X 10			
Compound Name	1- 70850	units	Det. Limit	Flags
Benzene	110	ug/L	10	
Bromodichloromethane	BDL	ug/L	10	
Bromoform	BDL	ug/L	20	
Bromomethane	BDL	ug/L	30	
Carbon Tetrachloride	BDL	ug/L	10	
Chlorobenzene	BDL	ug/L	10	
Chloroethane	BDL	ug/L	10	
2-Chloroethylvinyl ether	BDL	ug/L	10	
Chloroform	BDL	ug/L	10	
Chloromethane	BDL	ug/L	10	
Dibromochloromethane	BDL	ug/L	10	
1,2-Dichlorobenzene	BDL	ug/L	10	
1,3-Dichlorobenzene	BDL	ug/L	10	
1,4-Dichlorobenzene	BDL	ug/L	10	
Dichlorodifluoromethane	BDL	ug/L	10	
1,1-Dichloroethane	BDL	ug/L	10	
1,2-Dichloroethane	BDL	ug/L	10	
1,1-Dichloroethene	BDL	ug/L	10	
trans-1,2-Dichloroethene	BDL	ug/L	10	
1,2-Dichloropropane	BDL	ug/L	10	
cis-1,3-Dichloropropene	BDL	ug/L	10	
trans-1,3-Dichloropropene	BDL	ug/L	10	
Ethylbenzene	500	ug/L	10	
Methylene Chloride	BDL	ug/L	10	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/L	10	
1,1,2,2-Tetrachloroethane	BDL	ug/L	10	
Tetrachloroethene	BDL	ug/L	10	
Toluene	2300	ug/L	20	
1,1,1-Trichloroethane	BDL	ug/L	10	
1,1,2-Trichloroethane	BDL	ug/L	10	
Trichloroethene	BDL	ug/L	10	
Trichlorofluoromethane	BDL	ug/L	10	
Vinyl Chloride	BDL	ug/L	10	
Xylenes (Total)	4400	ug/L	10	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	109
Toluene-d8	86-119	101
Bromofluorobenzene	85-116	103

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :

Jerry Dees
Jerry Dees, Laboratory Director

D-25

Date: 3/12/97

Report Generated

End of Report



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 70850
Sample Date: 02/26/97
Received Date: 02/26/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 70850			
Sample Name / Location	NAS 19 Duplicate			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ N/S			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	02/27/97 JJ			
Date of Analysis	03/01/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 70850	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	37	ug/L	2	
2-Methylnaphthalene	50	ug/L	3	
Naphthalene	90	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

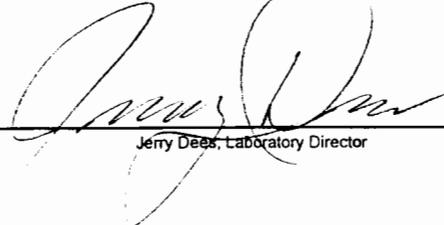
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	88
2-Fluorobiphenyl	43-116	96
Terphenyl -d14	33-141	89

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :



Jerry Dees, Laboratory Director

Date: 3/12/97

Report Generated



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 70850
Sample Date: 02/26/97
Received Date: 02/26/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 70850			
Sample Name / Location	NAS 19 Duplicate			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ N/S			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	03/04/97 MC			
Date of Analysis	03/04/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 70850	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

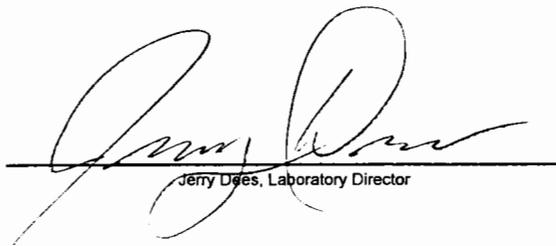
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	60

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :


Jerry Dyes, Laboratory Director

Date: 3/12/97
Report Generated



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 70850
Sample Date: 02/26/97
Received Date: 02/26/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 70850			
Sample Name / Location	NAS 19 Duplicate			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ N/S			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of extraction / Initials	03/06/97 JJ			
Date of Analysis	03/10/97			
Sample Matrix	GW			
Dilution	x 20			
Parameter	1- 70850	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	19	mg/L	5	

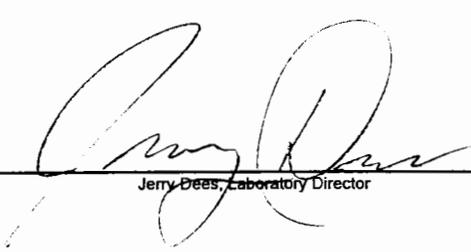
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	93
Nonatriacontane (C-39)	42-193 *	75

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :


Jerry Dees, Laboratory Director

Date: 3/12/97



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 70851
Sample Date: 02/26/97
Received Date: 02/26/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 70851			
Sample Name / Location	NAS 19 Trip Blank			
Collector's Name	PJB			
Date & Time Collected	02/26/97 @ AM			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	02/27/97 JM			
Date of Analysis	02/27/97			
Sample Matrix	DI			
Dilution	X 1			
Compound Name	1- 70851	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

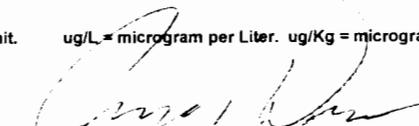
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	103
Toluene-d8	86-119	98
Bromofluorobenzene	85-116	100

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :


Jerry Dees, Laboratory Director

Date: 3/12/97

Report Generated

End of Report

D-29

Page 1 of 1



1.2

UST CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

NPWC Environmental Laboratory
 Bldg. 3297, Code 920
 NAS Pensacola, FL 32508-0510

PH# (904) 452-4728
 Autovon-922-4728

Requester: NPWC Environmental Dept.
 Address: Bldg. 3691, Code 910
 NAS Pensacola, FL 32508
 Phone #: (904) 452-3180
 Contact: Greg Campbell
 Job Order #: 1305001

Report Required? Yes No UEP? Yes No
 Lab ID Number:
 Sample Date: 02.26.97
 Received Date: 02.26.97
 Sample SAs: NAS 19
 Lab Due Date:

Sample ID #	Lab	11-70844	12-70845	13-70846	14-70847	Notes:		
Sample Name or Location		EQ. Blank	MW-1	MW-2	MW-3	K.A.G. (Less Pb)		
Sampled by		PJB	PJB	PJB	PJB			
Composite	Begin							
Date/Time	Frequency							
Collected	End							
Grab Time		0845	0900	0915	0930			
Sample Matrix		DI	GW	GW	GW			
PARAMETER by Method Name	METHOD #	X	X	X	X			
Ethylene Dibromide (EDB)	EPA 504	X	X	X	X	3	120ml VOA/4 oz.	None/4°C
Purg. Halocarbons/GC	EPA 601					4	40 ml VOA Vial x 2	HCY4°C
Purg. Aromatics/GC	EPA 602					3	40 ml VOA Vial x 2	HCY4°C
Purg. Halo. & Aro./GC	EPA 601/602	X	X	X	X	6	40 ml VOA Vial x 2	HCY4°C
Polynuclear Aromatics/HPLC	EPA 810					7	1L Amber x 2	4°C
Organics/GCMS	EPA 824					8	40 ml VOA Vial x 2	HCY4°C
Acids/Neutrals & Acids/GCMS	EPA 825					15	1L Amber x 2	4°C
Gas Chromatography	EPA SW 8000					3	40ml 2/1Lx2/4 oz.	HCY4°C/None
Halo. Vol. Org./GC	EPA SW 8010					4	40ml VOAx2/4 oz.	HCY4°C/None
Non-Halo. Vol. Org./GC	EPA SW 8015(MOU)					4	40ml 2/1Lx2/4 oz.	HCY4°C/None
Arom. Vol. Org./GC	EPA SW 8020					3	40ml VOAx2/4 oz.	HCY4°C/None
Halo/Arom. Vol. Org./GC	EPA SW 8010/8020					6	40ml VOAx2/4 oz.	HCY4°C/None
Polynuclear Aromatics/GC	EPA SW 8100					6	1Lx2/4 oz.	4°C/None
VOC/GCMS	EPA SW 8210A					8	40ml VOAx2/4 oz.	HCY4°C/None
VOC/GCMS - Cap.	EPA SW 8200					8	40ml VOAx2/4 oz.	HCY4°C/None
Semhal. Org./GCMS - Cap.	EPA SW 8270A					16	1Lx3/4 oz.	4°C/None
Polynuclear Aromatics (PAHs)	EPA SW 8310	X	X	X	X		1Lx3/4 oz.	4°C/None
PARAMETER by Group Name	METHOD SOURCE	X	X	X	X	Billing Units	Containers Required	Preservative(s) Used
Gasoline Analytical Group	EPA SW-848						Consult Lab	Consult Lab
Kerosene Analytical Group	EPA SW-848						Consult Lab	Consult Lab
Mixed Product Analytical Group	EPA SW-848						Consult Lab	Consult Lab
Total Petroleum Hydrocarbons (TPH)	FL TPH-100-P	X	X	X	X		Consult Lab	Consult Lab
PCPA Metals (B)	PCPA Various						Consult Lab	Consult Lab
ICLP Metals (B) w/Reaction	EPA SW-848						Consult Lab	Consult Lab
Lead (Pb)	EPA 239.2						250ml 4 oz.	HNO ₃ /None
Other:								

Comments:

Requested by:
 Date/Time

Pat L. ... / WES, Inc.
 2.26.97

Received by:
 Date/Time

Kathy ...
 2/26/97 12:15

PRC 85108



2.2

UST CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

NPWC Environmental Laboratory
 Bldg. 3297, Code 820
 NAS Pensacola, FL 32508-6500
 Ph# - (904) 452-4728
 Autovox - 922-4728

Requester: NPWC Environmental Dept.
 Address: Bldg. 3091, Code 910
 NAS Pensacola, FL 32508
 Phone #: (904) 452-3180
 Contact: Greg Campbell
 Job Order #: 1305001

Report Required? Yes No DEP? Yes No
 Lab ID Number:
 Sample Date: 2.26.97
 Received Date: 2.26.97
 Sample Site: NAS 19
 Lab Due Date:

Sample ID #	Lab	1-10848	2-10849	3-10850	4-10851	Notes:				
Sample Name or Location		MW-4	MW-5	Duplicate	Trip Blank	K.A.G. (Loss Pb)				
Sampled by		POB	POB	POB	POB					
Compos	Begin									
Date/Time	Frequency									
Collected	End									
Grab Time		0945	1000		AM					
Sample Matrix		GW	GW	GW	DE					
PARAMETER by Method Name	METHOD #	X	X	X	X	Billing Units	Containers Required	Preservative(s) Used		
Ethylene Dibromide (EDB)	EPA 504	Y	Y	Y	Y	3	120ml A VOA/4 oz.	None/4°C		
Purg. Halocarbons/GC	EPA 801					4	40 ml VOA Vial x 2	HCV4°C		
Purg. Aromatics/GC	EPA 802					3	40 ml VOA Vial x 2	HCV4°C		
Purg. Halo. & Aro/GC	EPA 801/802	X	X	Y	Y	8	40 ml VOA Vial x 2	HCV4°C		
Polynuclear Aromatics/HPLC	EPA 810					7	1L Amber x 2	4°C		
pesticides/GCMS	EPA 824					8	40 ml VOA Vial x 2	HCV4°C		
Acids/Alcohols & Acids/GCMS	EPA 825					15	1L Amber x 2	4°C		
Gas Chromatography	EPA SW 8000					5	40ml x 2/1L x 2/4 oz.	HCV4°C/None		
Halo. Vol. Org/GC	EPA SW 8010					4	40ml VOA x 2/4 oz.	HCV4°C/None		
Non-Halo. Vol. Org/GC	EPA SW 8015(MOD)					4	40ml x 2/1L x 2/4 oz.	HCV4°C/None		
Arom. Vol. Org/GC	EPA SW 8020					3	40ml VOA x 2/4 oz.	HCV4°C/None		
Halo/Arom. Vol. Org/GC	EPA SW 8010/8020					8	40ml VOA x 2/4 oz.	HCV4°C/None		
Polynuclear Aromatics/GC	EPA SW 8100					8	1L x 2/4 oz.	4°C/None		
VOC/GCMS	EPA SW 8240A					8	40ml VOA x 2/4 oz.	HCV4°C/None		
VOC/GCMS - Cap.	EPA SW 8280					8	40ml VOA x 2/4 oz.	HCV4°C/None		
Semivol. Org./GCMS - Cap.	EPA SW 8270A					18	1L x 3/4 oz.	4°C/None		
Polynuclear Aromatics (PAHs)	EPA SW 8310	Y	X	X			1L x 3/4 oz.	4°C/None		
PARAMETER by Group Name	METHOD SOURCE	X	X	X	X	Billing Units	Containers Required	Preservative(s) Used		
Gasoline Analytical Group	EPA SW-848						Consult Lab	Consult Lab		
Kerosene Analytical Group	EPA SW-848						Consult Lab	Consult Lab		
Mixed Product Analytical Group	EPA SW-848						Consult Lab	Consult Lab		
Total Petroleum Hydrocarbons	FL EPA 8210-RVD	X	Y	X			Consult Lab	Consult Lab		
HCFA Metals (8)	POB PA Various						Consult Lab	Consult Lab		
ICLP Metals (8) w/extraction	EPA SW-848						Consult Lab	Consult Lab		
Lead (Pb)	EPA 238.2						250ml x 4 oz.	HNO ₃ /None		
Other:										

Comments:

Requested by:
Date/Time

Pat L. Ke / WES, Inc.
2.26.97

Received by:
Date/Time

Kathy Beards
2/26/97 12:15

PWC 93108



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 71274
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71274			
Sample Name / Location	NAS 19 MW 6			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1030			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	03/31/97 JM			
Date of Analysis	03/31/97, 04/01/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71274	units	Det. Limit	Flags
Benzene	370	ug/L	20	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	630	ug/L	20	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	270	ug/L	20	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	5200	ug/L	20	

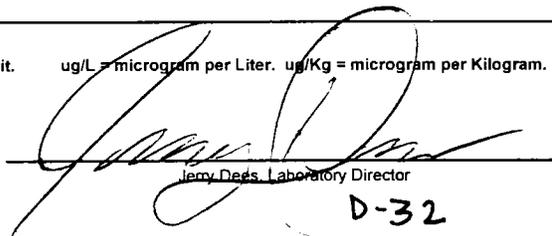
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	103
Toluene-d8	86-119	105
Bromofluorobenzene	85-116	98

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :


Jeremy Deeds, Laboratory Director

Date: 4/21/97

Report Generated

End of Report



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 71274
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71274			
Sample Name / Location	NAS 19 MW 6			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1030			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	04/01/97 JJ			
Date of Analysis	04/02/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71274	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	95	ug/L	2	
2-Methylnaphthalene	115	ug/L	3	
Naphthalene	138	ug/L	4	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

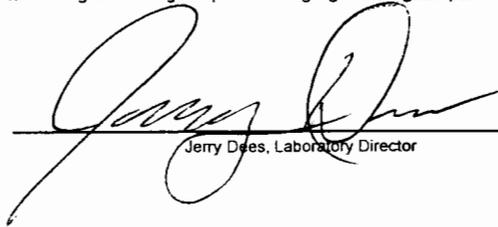
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	85
2-Fluorobiphenyl	43-116	86
Terphenyl -d14	33-141	88

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :


Jerry Dees, Laboratory Director

Date: 4/10/97
Report Generated



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 71274
 Sample Date: 03/28/97
 Received Date: 03/28/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 71274			
Sample Name / Location	NAS 19 MW 6			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1030			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/07/97 JM			
Date of Analysis	04/07/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71274	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	47 *

COMMENTS : * = Surrogate spike recovery below acceptance limits due to matrix interference.

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 4/21/97

Report Generated

D-34



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 71274
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71274			
Sample Name / Location	NAS 19 MW 6			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1030			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of extraction / Initials	04/03/97 JJ			
Date of Analysis	04/07/97			
Sample Matrix	GW			
Dilution	x 20			
Parameter	1- 71274	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	150	mg/L	5	

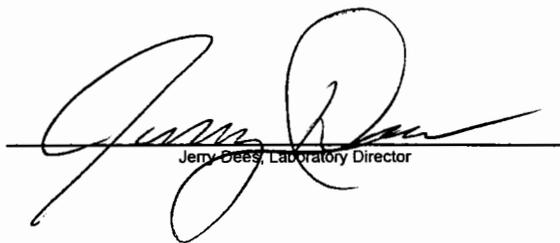
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	101
Nonatriacontane (C-39)	42-193 *	107

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :


Jerry Dees, Laboratory Director

Date: 4/10/97



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 71275
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71275				
Sample Name / Location	NAS 19 MW 7				
Collector's Name	C.E.				
Date & Time Collected	03/28/97 @ 1045				
Sample Type (composite or grab)	Grab				
Analyst	J. Moore				
Date of Extraction / Initials	04/01/97 JM				
Date of Analysis	04/01/97				
Sample Matrix	GW				
Dilution	X 1				
Compound Name	1- 71275	units	Det. Limit	Flags	
Benzene	BDL	ug/L	1		
Bromodichloromethane	BDL	ug/L	1		
Bromoform	BDL	ug/L	2		
Bromomethane	BDL	ug/L	3		
Carbon Tetrachloride	BDL	ug/L	1		
Chlorobenzene	BDL	ug/L	1		
Chloroethane	BDL	ug/L	1		
2-Chloroethylvinyl ether	BDL	ug/L	1		
Chloroform	BDL	ug/L	1		
Chloromethane	BDL	ug/L	1		
Dibromochloromethane	BDL	ug/L	1		
1,2-Dichlorobenzene	BDL	ug/L	1		
1,3-Dichlorobenzene	BDL	ug/L	1		
1,4-Dichlorobenzene	BDL	ug/L	1		
Dichlorodifluoromethane	BDL	ug/L	1		
1,1-Dichloroethane	BDL	ug/L	1		
1,2-Dichloroethane	BDL	ug/L	1		
1,1-Dichloroethene	BDL	ug/L	1		
trans-1,2-Dichloroethene	BDL	ug/L	1		
1,2-Dichloropropane	BDL	ug/L	1		
cis-1,3-Dichloropropene	BDL	ug/L	1		
trans-1,3-Dichloropropene	BDL	ug/L	1		
Ethylbenzene	3	ug/L	1		
Methylene Chloride	BDL	ug/L	1		
Methyl-tert-butyl ether (MTBE) *	BDL	ug/L	1		
1,1,2,2-Tetrachloroethane	BDL	ug/L	1		
Tetrachloroethene	BDL	ug/L	1		
Toluene	BDL	ug/L	1		
1,1,1-Trichloroethane	BDL	ug/L	1		
1,1,2-Trichloroethane	BDL	ug/L	1		
Trichloroethene	BDL	ug/L	1		
Trichlorofluoromethane	BDL	ug/L	1		
Vinyl Chloride	BDL	ug/L	1		
Xylenes (Total)	4	ug/L	1		

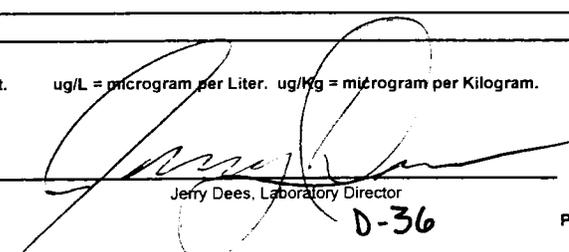
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	107
Toluene-d8	86-119	101
Bromofluorobenzene	85-116	103

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :


Jerry Dees, Laboratory Director

Date: 4/21/97

Report Generated



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 71275
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71275			
Sample Name / Location	NAS 19 MW7			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1045			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	04/01/97 JJ			
Date of Analysis	04/02/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71275	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	BDL	ug/L	2	
2-Methylnaphthalene	BDL	ug/L	3	
Naphthalene	BDL	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

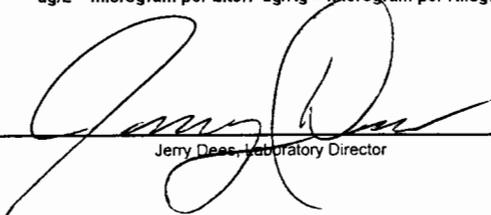
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	76
2-Fluorobiphenyl	43-116	84
Terphenyl -d14	- 33-141	81

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :


Jerry Deas, Laboratory Director

Date: 4/10/97

Report Generated

D-37



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 71275
 Sample Date: 03/28/97
 Received Date: 03/28/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 71275			
Sample Name / Location	NAS 19 MW 7			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1045			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/16/97 JM			
Date of Analysis	04/16/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71275	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

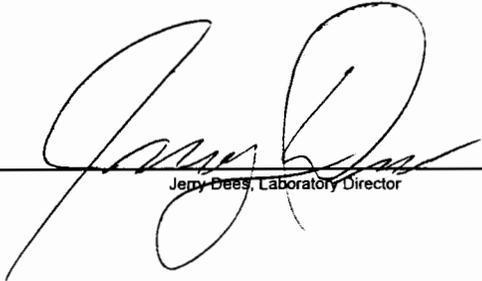
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	94

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :



 Jerry Dees, Laboratory Director

Date: 4/21/97
 Report Generated



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 71275
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71275			
Sample Name / Location	NAS 19 MW 7			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1045			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of extraction / Initials	04/03/97 JJ			
Date of Analysis	04/05/97			
Sample Matrix	GW			
Dilution	x 1			
Parameter	1- 71275	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	0.25	

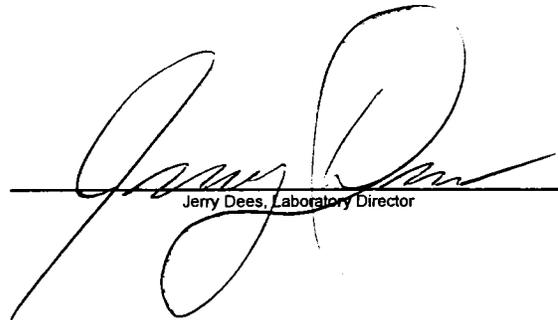
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	104
Nonatriacontane (C-39)	42-193 *	100

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :


Jerry Dees, Laboratory Director

Date: 4/21/97



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 71276
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71276			
Sample Name / Location	NAS 19 MW 8			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1100			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	03/31/97 JM			
Date of Analysis	04/01/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71276	units	Det. Limit	Flags
Benzene	1300	ug/L	20	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	450	ug/L	20	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	3500	ug/L	20	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	2000	ug/L	20	

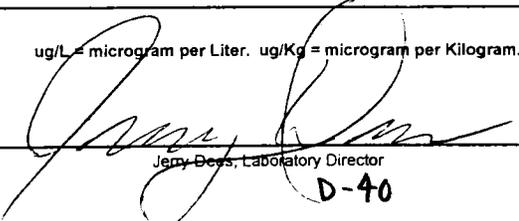
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	104
Toluene-d8	86-119	113
Bromofluorobenzene	85-116	104

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :


Jerry Deas, Laboratory Director
D-40

Date: 4/21/97

Report Generated



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 71276
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71276			
Sample Name / Location	NAS 19 MW 8			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1100			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	04/01/97 JJ			
Date of Analysis	04/02/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71276	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	BDL	ug/L	2	
2-Methylnaphthalene	4	ug/L	3	
Naphthalene	12	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

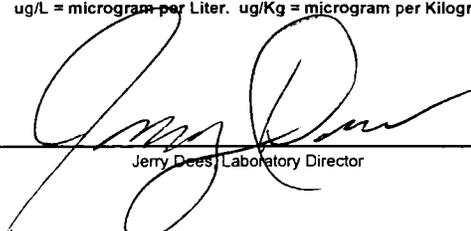
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	86
2-Fluorobiphenyl	43-116	92
Terphenyl -d14	-33-141	94

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :


Jerry Dees, Laboratory Director

Date: 4/10/97

Report Generated

D-41



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 71276
 Sample Date: 03/28/97
 Received Date: 03/28/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 71276			
Sample Name / Location	NAS 19 MW 8			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1100			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/07/97 JM			
Date of Analysis	04/07/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71276	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

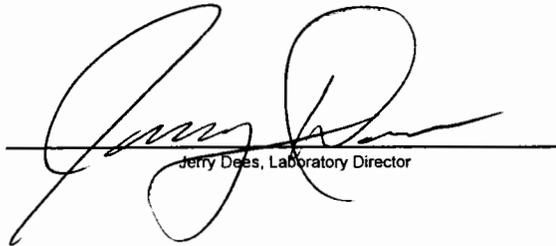
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	106

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 4/10/97
 Report Generated



**Navy Public Works Center
Environmental Laboratory**

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 71276
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71276			
Sample Name / Location	NAS 19 MW 8			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1100			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of extraction / Initials	04/03/97 JJ			
Date of Analysis	04/05/97			
Sample Matrix	GW			
Dilution	x 1			
Parameter	1- 71276	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	12	mg/L	0.25	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	104
Nonatriacontane (C-39)	42-193 *	104

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 4/22/97

D-43



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 71266
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71266			
Sample Name / Location	NAS 19 MW 9			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1115			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	03/31/97 JM			
Date of Analysis	03/31/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71266	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/l	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethane	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

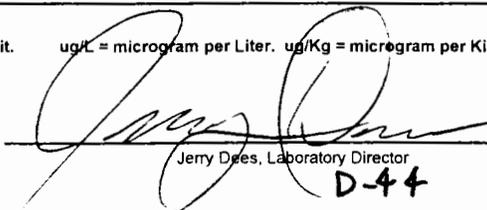
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	107
Toluene-d8	86-119	102
Bromofluorobenzene	85-116	105

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :


Jerry Dees, Laboratory Director
D-44

Date: 4/10/97

Report Generated



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 71266
 Sample Date: 03/28/97
 Received Date: 03/28/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 71266			
Sample Name / Location	NAS 19 MW 9			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1115			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	04/01/97 JJ			
Date of Analysis	04/02/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71266	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	BDL	ug/L	2	
2-Methylnaphthalene	BDL	ug/L	3	
Naphthalene	BDL	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

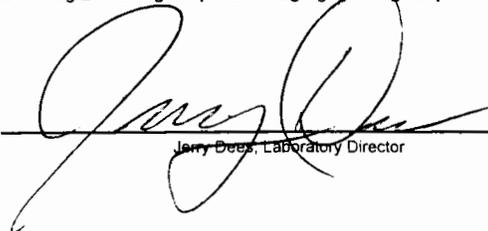
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	87
2-Fluorobiphenyl	43-116	98
Terphenyl -d14	33-141	95

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :


 Jerry Dees, Laboratory Director

Date: 4/10/97

Report Generated

D-45



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 71266
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71266			
Sample Name / Location	NAS 19 MW9			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1115			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/07/97 JM			
Date of Analysis	04/07/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71266	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

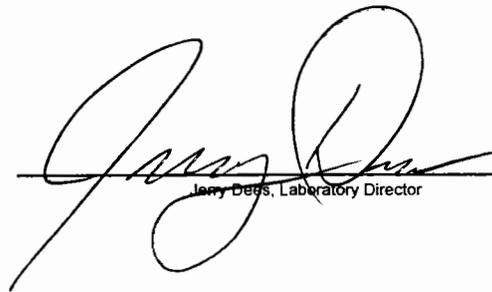
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	101

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 4/10/97

Report Generated

D-46



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 71266
 Sample Date: 03/28/97
 Received Date: 03/28/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 71266			
Sample Name / Location	NAS 19 MW9			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1115			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of extraction / Initials	04/03/97 JJ			
Date of Analysis	04/04/97			
Sample Matrix	GW			
Dilution	x 1			
Parameter	1- 71266	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	0.25	

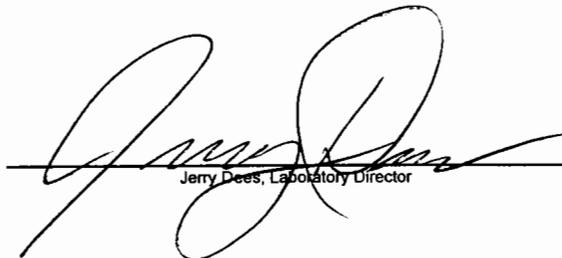
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	99
Nonatriacontane (C-39)	42-193 *	81

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 4/10/97



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 71267
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71267			
Sample Name / Location	NAS 19 MW 10			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1130			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	03/31/97 JM			
Date of Analysis	03/31/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71267	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	107
Toluene-d8	86-119	101
Bromofluorobenzene	85-116	104

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :

Jerry Dees
Jerry Dees, Laboratory Director
D-48

Date: 4/10/97

Report Generated

End of Report



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 71267
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71267			
Sample Name / Location	NAS 19 MW 10			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1130			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	04/01/97 JJ			
Date of Analysis	04/02/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71267	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	BDL	ug/L	2	
2-Methylnaphthalene	BDL	ug/L	3	
Naphthalene	BDL	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

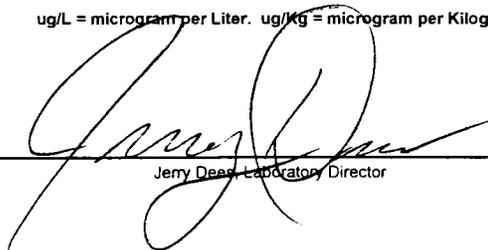
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	89
2-Fluorobiphenyl	43-116	101
Terphenyl -d14	33-141	105

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :


Jerry Deas, Laboratory Director

Date: 4/10/97

Report Generated

D-49



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 71267
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71267			
Sample Name / Location	NAS 19 MW 10			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1130			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	04/03/97 MC			
Date of Analysis	04/03/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71267	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	94

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :



Jerry Doe, Laboratory Director

Date: 4/10/97
Report Generated



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 71267
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71267			
Sample Name / Location	NAS 19 MW 10			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1130			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of extraction / Initials	04/03/97 JJ			
Date of Analysis	04/04/97			
Sample Matrix	GW			
Dilution	x 1			
Parameter	1- 71267	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	0.25	

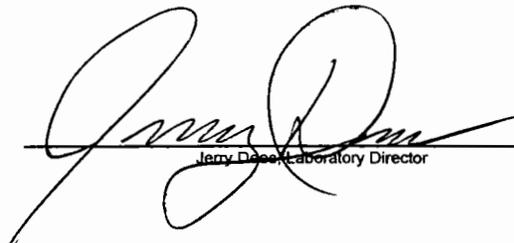
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	99
Nonatriacontane (C-39)	42-193 *	103

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :



Jerry Deese, Laboratory Director

Date: 4/10/97

D-51



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 71268
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71268			
Sample Name / Location	NAS 19 MW 11			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1145			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	03/31/97 JM			
Date of Analysis	03/31/97, 04/01/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71268	units	Det. Limit	Flags
Benzene	170	ug/L	1	
Bromodichloromethane	3	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	500	ug/L	1	
Methylene Chloride	BDL	ug/L	20	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/l	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	2100	ug/L	20	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	6700	ug/L	20	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	106
Toluene-d8	86-119	107
Bromofluorobenzene	85-116	103

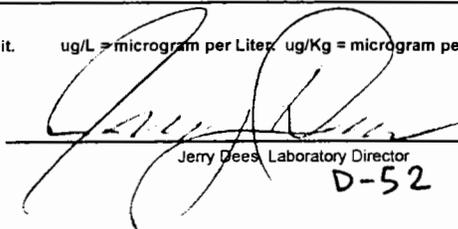
COMMENTS :

BDL = Below Detection Limit.

ug/L = microgram per Liter, ug/Kg = microgram per Kilogram.

* = FL HRS certification pending.

Approved by :


Jerry Dees, Laboratory Director
D-52

Date: 4/21/97

Report Generated

End of Report



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 71268
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71268			
Sample Name / Location	NAS 19 MW 11			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1145			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	04/01/97 JJ			
Date of Analysis	04/02/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71268	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	96	ug/L	2	
2-Methylnaphthalene	75	ug/L	3	
Naphthalene	94	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

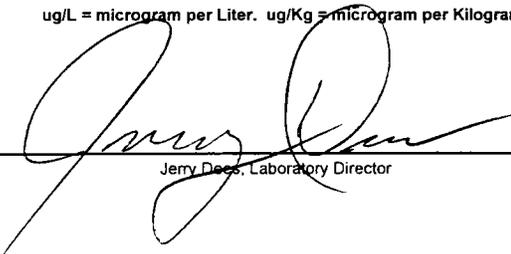
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	88
2-Fluorobiphenyl	43-116	72
Terphenyl -d14	33-141	80

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :


Jerry Dees, Laboratory Director

Date: 4/10/97

Report Generated

D-53



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 71268
 Sample Date: 03/28/97
 Received Date: 03/28/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 71268			
Sample Name / Location	NAS 19 MW 11			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1145			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	04/03/97 MC			
Date of Analysis	04/03/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71268	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

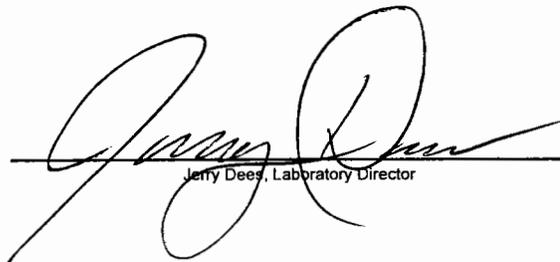
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	79

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 4/10/97
 Report Generated

D-54



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 71268
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71268			
Sample Name / Location	NAS 19 MW 11			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1145			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of extraction / Initials	04/03/97 JJ			
Date of Analysis	04/07/97			
Sample Matrix	GW			
Dilution	x 20			
Parameter	1- 71268	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	76	mg/L	5	

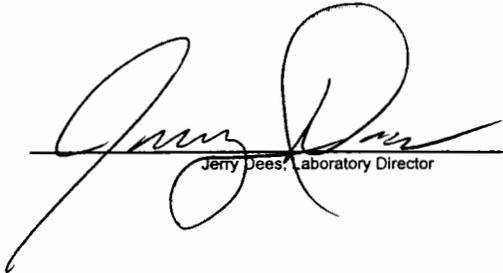
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	105
Nonatriacontane (C-39)	42-193 *	101

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :


Jerry Dees, Laboratory Director

Date: 4/10/97

D-55



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 71269
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71269			
Sample Name / Location	NAS 19 MW 12			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1200			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/01/97 JM			
Date of Analysis	04/01/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71269	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

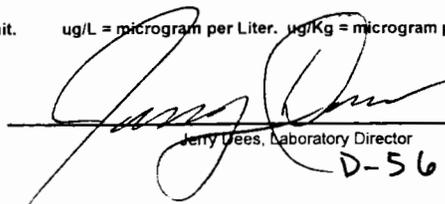
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	104
Toluene-d8	86-119	101
Bromofluorobenzene	85-116	105

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :


Jerry Dees, Laboratory Director
D-56

Date: 4/10/97

Report Generated

Page 1 of 1

End of Report



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 71269
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71269			
Sample Name / Location	NAS 19 MW 12			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1200			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	04/01/97 JJ			
Date of Analysis	04/03/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71269	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	BDL	ug/L	2	
2-Methylnaphthalene	BDL	ug/L	3	
Naphthalene	BDL	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

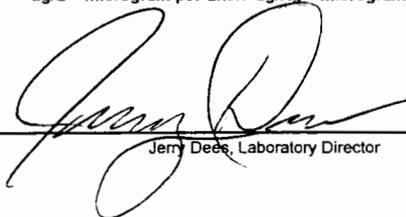
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	86
2-Fluorobiphenyl	43-116	94
Terphenyl -d14	33-141	98

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :


Jerry Dees, Laboratory Director

Date: 4/10/97

Report Generated

D-57



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 71269
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71269			
Sample Name / Location	NAS 19 MW 12			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1200			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/04/97 JM			
Date of Analysis	04/04/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71269	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

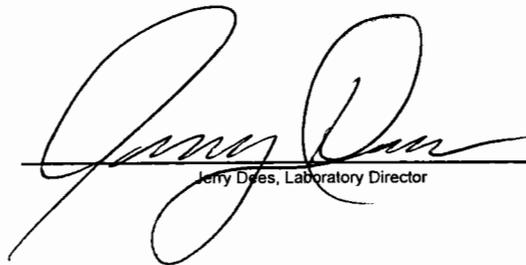
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	124

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :



Jerry Dyes, Laboratory Director

Date: 4/10/97

Report Generated

D-58



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 71269
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71269			
Sample Name / Location	NAS 19 MW 12			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1200			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of extraction / Initials	04/03/97 JJ			
Date of Analysis	04/04/97			
Sample Matrix	GW			
Dilution	x 1			
Parameter	1- 71269	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	0.25	

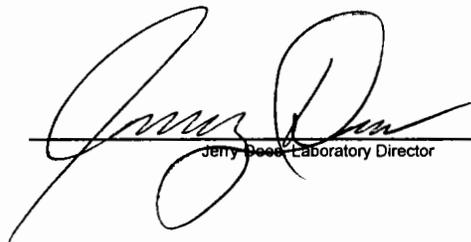
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	101
Nonatriacontane (C-39)	42-193 *	102

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :



Jerry Deed, Laboratory Director

Date: 4/10/97



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 71270
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71270			
Sample Name / Location	NAS 19 MW 13			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1215			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/01/97 JM			
Date of Analysis	04/01/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71270	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	2	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

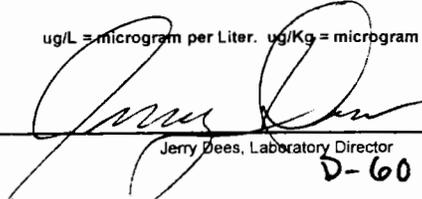
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	107
Toluene-d8	86-119	101
Bromofluorobenzene	85-116	103

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :


Jerry Dees, Laboratory Director
D-60

Date: 4/10/97

Report Generated

End of Report



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 71270
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71270			
Sample Name / Location	NAS 19 MW 13			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1215			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	04/01/97 JJ			
Date of Analysis	04/03/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71270	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	BDL	ug/L	2	
2-Methylnaphthalene	BDL	ug/L	3	
Naphthalene	BDL	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

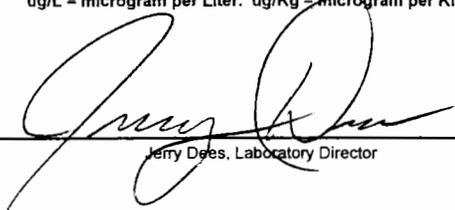
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	73
2-Fluorobiphenyl	43-116	74
Terphenyl -d14	- 33-141	90

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :



Jerry Dees, Laboratory Director

Date: 4/10/97

Report Generated

D-61



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 71270
 Sample Date: 03/28/97
 Received Date: 03/28/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 71270			
Sample Name / Location	NAS 19 MW 13			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1215			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/07/97 JM			
Date of Analysis	04/07/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71270	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

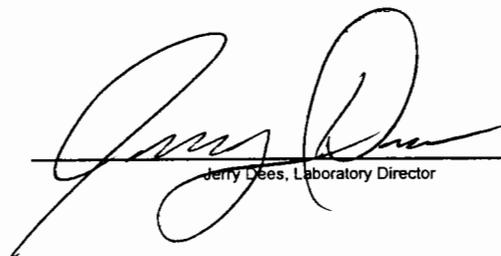
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	98

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :


 Jerry Dees, Laboratory Director

Date: 4/10/97
 Report Generated

D-62



**Navy Public Works Center
Environmental Laboratory**

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 71270
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71270			
Sample Name / Location	NAS 19 MW 13			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1215			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of extraction / Initials	04/03/97 JJ			
Date of Analysis	04/04/97			
Sample Matrix	GW			
Dilution	x 1			
Parameter	1- 71270	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	0.25	

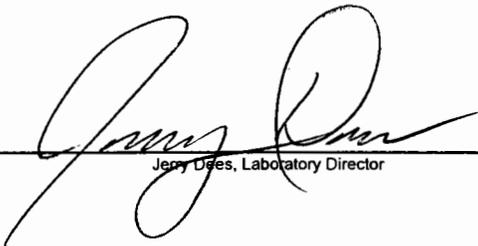
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	101
Nonatriacontane (C-39)	42-193 *	100

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :


Jerry Dees, Laboratory Director

Date: 4/10/97

D-63



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 71271
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71271			
Sample Name / Location	NAS 19 Duplicate			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ N/S			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	03/31/97 JM			
Date of Analysis	03/31/97, 04/01/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71271	units	Det. Limit	Flags
Benzene	270	ug/L	20	
Bromodichloromethane	3	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	480	ug/L	20	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	190	ug/L	20	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	4100	ug/L	20	

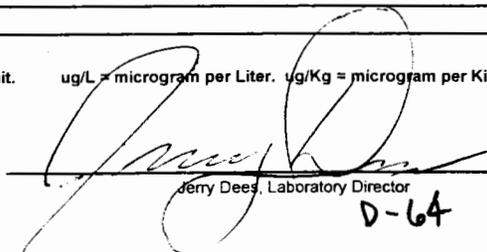
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	100
Toluene-d8	86-119	106
Bromofluorobenzene	85-116	98

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :


Jerry Dees, Laboratory Director
D-64

Date: 4/21/97

Report Generated

End of Report



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 71271
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71271			
Sample Name / Location	NAS 19 Duplicate			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ N/S			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	04/01/97 JJ			
Date of Analysis	04/03/97, 04/04/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71271	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	106	ug/L	2	
2-Methylnaphthalene	104	ug/L	3	
Naphthalene	156	ug/L	4	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

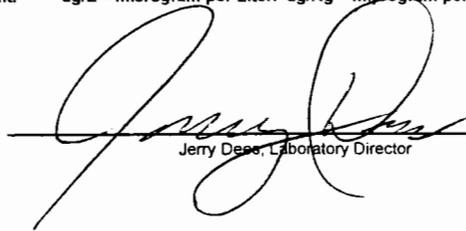
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	84
2-Fluorobiphenyl	43-116	80
Terphenyl -d14	33-141	82

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :


Jerry Deese, Laboratory Director

Date: 4/10/97

Report Generated

D-65



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 71271
 Sample Date: 03/28/97
 Received Date: 03/28/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 71271			
Sample Name / Location	NAS 19 Duplicate			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ N/S			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/07/97 JM			
Date of Analysis	04/07/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71271	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

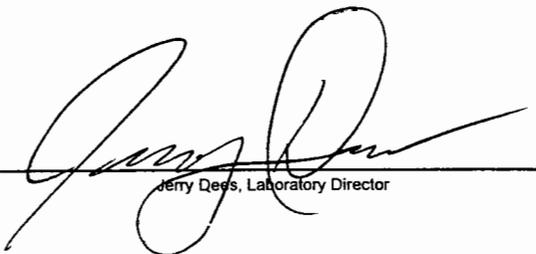
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	76

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 4/10/97
 Report Generated

D-66



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 71271
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71271			
Sample Name / Location	NAS 19 Duplicate			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ N/S			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of extraction / Initials	04/03/97 JJ			
Date of Analysis	04/07/97			
Sample Matrix	GW			
Dilution	x 20			
Parameter	1- 71271	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	61	mg/L	5	

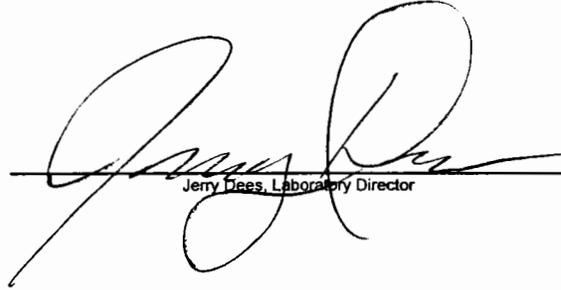
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	98
Nonatriacontane (C-39)	42-193 *	104

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 4/21/97

D-67



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 71272
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71272			
Sample Name / Location	NAS 19 Trip Blank			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 0930			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	03/31/97 JM			
Date of Analysis	03/31/97			
Sample Matrix	DI			
Dilution	X 1			
Compound Name	1- 71272	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	101
Toluene-d8	86-119	102
Bromofluorobenzene	85-116	105

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :

Jerry Dees
Jerry Dees, Laboratory Director

D-68

Date: 4/10/97

Report Generated

End of Report



Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 71273
 Sample Date: 03/28/97
 Received Date: 03/28/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 71273			
Sample Name / Location	NAS 19 Eq. Blank			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1015			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	03/31/97 JM			
Date of Analysis	03/31/97			
Sample Matrix	DI			
Dilution	X 1			
Compound Name	1- 71273	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	107
Toluene-d8	86-119	103
Bromofluorobenzene	85-116	105

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :

Jerry Dyes
 Jerry Dyes, Laboratory Director
 D-69

Date: 4/10/97

Report Generated

End of Report



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 71273
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71273			
Sample Name / Location	NAS 19 Eq. Blank			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1015			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	04/01/97 JJ			
Date of Analysis	04/02/97			
Sample Matrix	DI			
Dilution	X 1			
Compound Name	1- 71273	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	BDL	ug/L	2	
2-Methylnaphthalene	BDL	ug/L	3	
Naphthalene	BDL	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

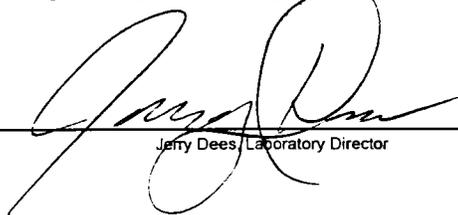
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	81
2-Fluorobiphenyl	43-116	94
Terphenyl -d14	33-141	102

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :



Jerry Dees, Laboratory Director

Date: 4/10/97

Report Generated

D-70



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 71273
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71273			
Sample Name / Location	NAS 19 Eq. Blank			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1015			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	04/03/97 MC			
Date of Analysis	04/03/97			
Sample Matrix	DI			
Dilution	X 1			
Compound Name	1- 71273	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

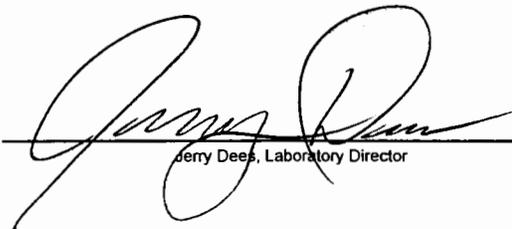
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	113

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :


Jerry Dees, Laboratory Director

Date: 4/10/97

Report Generated

D-21



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 71273
Sample Date: 03/28/97
Received Date: 03/28/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71273			
Sample Name / Location	NAS 19 Eq. Blank			
Collector's Name	C.E.			
Date & Time Collected	03/28/97 @ 1015			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of extraction / Initials	04/03/97 JJ			
Date of Analysis	04/05/97			
Sample Matrix	DI			
Dilution	x 1			
Parameter	1- 71273	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	0.25	

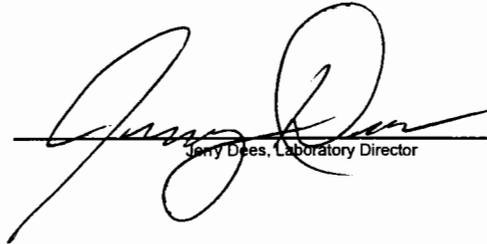
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	104
Nonatriacontane (C-39)	42-193 *	103

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :


Jerry Dees, Laboratory Director

Date: 4/10/97

D-72



UST CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

NPWC Environmental Laboratory
 Bldg. 3697, Code 910
 NAS Pensacola, FL 32508-6500
 Phone: (904) 452-4728
 Fax: (904) 452-4728

Requester: NPWC Environmental Dept.
Address: Bldg. 3691, Code 910
 NAS Pensacola, FL 32508
Phone #: (904) 452-3180
Contact: Greg Campbell
Job Order #: 1305001

Request Received: _____
Lab ID Number: _____
Sample Date: 3-28-97
Received Date: 3-28-97
Sample ID: NAS 19
Lab Use Only: _____

Sample ID #	Lab	01-7-1266	02-7-1267	03-7-1268	04-7-1269	Notes:		
Sample Name or Location		MW 9	MW 10	MW 11	MW 12	V.A.B. (LESS LEAD)		
Sampled by		C.E.	C.E.	C.E.	C.E.			
Company	Begin							
Time/Type	Frequency							
Collected	End							
Grab Time		1115	1130	1145	1200			
Sample Matrix		GW	GW	GW	GW			
PARAMETER	METHOD	X	X	X	X	SHRINK	Containers	Preservative(s)
By Method Name	SOURCE	Bottle ID #'s	Bottle ID #'s	Bottle ID #'s	Bottle ID #'s	Units	Required	Used
Ethylene Glycol (EDG)	EPA 804	X 2 EDG	X 2 EDG	X 2 EDG	X 2 EDG	3	120ml VOA/24 oz.	None/4°C
Perg. Hydrocarbons/GC	EPA 801					3	40 ml VOA/24 oz.	HCY/4°C
Perg. Aromatics/GC	EPA 802					3	40 ml VOA/24 oz.	HCY/4°C
Perg. Meta. & Aro./GC	EPA 801/802	X 4 VOA	X 4 VOA	X 4 VOA	X 4 VOA	3	40 ml VOA/24 oz.	HCY/4°C
Polyaromatic Aromatics/HPLC	EPA 810					7	1L Amber 2	4°C
Phenols/VOCMS	EPA 824					3	40 ml VOA/24 oz.	HCY/4°C
Benzofuran & Acids/GCMS	EPA 825					10	1L Amber 2	4°C
Gas Chromatography	EPA SW 8000					3	40ml 2/1L/24 oz.	HCY/4°C/None
Meta. Vol. Org./GC	EPA SW 8010					4	40ml VOA/24 oz.	HCY/4°C/None
Non-Meta. Vol. Org./GC	EPA SW 8010(MCC)					4	40ml 2/1L/24 oz.	HCY/4°C/None
Amb. Vol. Org./GC	EPA SW 8020					5	40ml VOA/24 oz.	HCY/4°C/None
Meta. Aro. Vol. Org./GC	EPA SW 8010/8020					4	40ml VOA/24 oz.	HCY/4°C/None
Polyaromatic Aromatics/GC	EPA SW 8100					7	1L/24 oz.	4°C/None
VOC/GCMS	EPA SW 8240A					3	40ml VOA/24 oz.	HCY/4°C/None
VOC/GCMS - Cap.	EPA SW 8260					3	40ml VOA/24 oz.	HCY/4°C/None
Semiv. Org./GCMS - Cap.	EPA SW 8270A					10	1L/24 oz.	4°C/None
Polyaromatic Aromatics (PAHs)	EPA SW 8310	X 2 PAH	X 2 PAH	X 2 PAH	X 2 PAH	10	1L/24 oz.	4°C/None
PARAMETER	METHOD	X	X	X	X	SHRINK	Containers	Preservative(s)
By Group Name	SOURCE	Bottle ID #'s	Bottle ID #'s	Bottle ID #'s	Bottle ID #'s	Units	Required	Used
Gasoline Analytical Group	EPA SW-846						Consult Lab	Consult Lab
Refractive Analytical Group	EPA SW-848						Consult Lab	Consult Lab
Mixed Phenols Analytical Group	EPA SW-848						Consult Lab	Consult Lab
Total Petroleum Hydrocarbons	EPA SW-846	X 2 TPH	X 2 TPH	X 2 TPH	X 2 TPH		Consult Lab	Consult Lab
ICPA Metals (B)	EPA Various						Consult Lab	Consult Lab
TCP Metals (B) - wet oxidation	EPA SW-848						Consult Lab	Consult Lab
Lead (Pb)	EPA 808.2						250ml/oz.	None/None
Other:								

Comments:

Requested by: [Signature] Date/Time: 3-28-97 1400
 Received by: [Signature] Date/Time: 3-28-97 1400

NPWC 55105

(1 - Btl missing from MW 9)

D-73



UST CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

NPWC Environmental Laboratory

Emp. 287, Code 888

NAS Pensacola, P. 32508-6508

PH - (904) 452-4728

Address - 472-4720

Requester:

NPWC Environmental Dept.

Address:

Bldg. 3691, Code 910
NAS Pensacola, FL 32508

Phone #:

(904) 462-3180

Contact:

Greg Campbell

Job Order #:

130500

Rep. as Required?

0287 T88 No

Lab ID Number:

Sample Date:

Received Date:

Sample Class:

Lab Use Date:

3-28-97

3-28-97

NAS-17

Sample ID #	Lot	01-7-1270	02-7-1271	03-7-1272	04-	Notes
Sample Name		MW-13	Duplicate	TRIP BLANK		KAG LOSS CONT
at Location						
Sampled by		CE	CE	CE		
Compos	Begin					
Day/Time	Frequency					
Collected	End					
Obs Time		1215		0930		
Sample Matrix		GW	GW	DI		
PARAMETER	METHOD	X	X	X	X	Shipping Units
By Group Name	SOURCE	X	X	X	X	Containers Required
Sample Analytical Group	EPA SW-846	X 2 EDB	X 2 EDB	X 2 EDB	X 2 EDB	Preservative(s) Used
Reference Analytical Group	EPA SW-846					
Method Product Analytical Group	EPA SW-846					
Total Petroleum Hydrocarbons	PT-6000/10	X 2 TPH	X 2 TPH	X 2 TPH	X 2 TPH	
NPRA Metals (M)	EPA Various					
ICP Metals (M) Interception	EPA SW-846					
Lead (Pb)	846232					
Other						

Comments:

Subscribed by:

Date/Time

[Signature]
3-28-97 1400

Received by:

Date/Time

[Signature]
3-28-97 1400

NPWC 25108

D-74



UST CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

NPWC Environmental Laboratory

Report Requested: _____ Dept: _____ Year: _____ No: _____

6901-2887, Code 910
 448 Pensacola, FL 32508-6500

Requestor: NPWC Environmental Dept.
 Address: Bldg. 3691, Code 910
NAS Pensacola, FL 32508
 Phone #: (904) 452-3180
 Contact: Greg Campbell
 Job Order #: 130500

Lab ID Number: _____
 Sample Date: 3-28-97
 Received Date: 3-28-97
 Sample Size: 1/25-19
 Lab Use Desc: _____

Sample ID #	Lab	01-7-1273	02-7-1274	03-7-1275	04-7-1276	Notes		
Sample Name	-----	EQ BANK	MW-6	MW-7	MW-8	KAB. (LOSS LOST)		
Location	-----							
Sampled by	-----	CE	CE	CE	CE			
Composite	Begin							
Date/Time	Frequency							
Collected	End							
Obs Time	-----	1015	1030	1045	1000			
Sample Matrix	-----	DT	GW	GW	GW			
PARAMETER	METHOD	X	X	X	X	Quantity	Containers	Preservation(s)
by Group Name	SOURCE	Source ID #'s	Source ID #'s	Source ID #'s	Source ID #'s	Units	Required	Used
Byline Chloride (ED)	EPA 804	X 2 ED	X 2 ED	X 2 ED	X 2 ED	3	120ml VOA 2L	None/C
Prog. Halocarbon/GC	EPA 801					4	40 ml VOA 2L	HCY/C
Prog. Aromatics/GC	EPA 802					2	40 ml VOA 2L	HCY/C
Prog. HCB & Aro/GC	EPA 801/802	X 4 VOA	X 4 VOA	X 4 VOA	X 4 VOA	6	40 ml VOA 2L	HCY/C
Polynuclear Aromatics/HPLC	EPA 810					7	1L Amber 2	4°C
Phenols/GCMS	EPA 824					7	40 ml VOA 2L	HCY/C
Sulfonamides & Amino/GCMS	EPA 823					10	1L Amber 2	4°C
Gas Chromatography	EPA SW 8000					8	40ml 2/1L 2L	HCY/C/None
Hex. Vol. Org./GC	EPA SW 8010					4	40ml VOA 2L	HCY/C/None
Non-Halo. Vol. Org./GC	EPA SW 8015(MOD)					6	40ml 2/1L 2L	HCY/C/None
Aro. Vol. Org./GC	EPA SW 8020					2	40ml VOA 2L	HCY/C/None
Halo. Non-Halo. Vol. Org./GC	EPA SW 8010/8020					3	40ml VOA 2L	HCY/C/None
Polynuclear Aromatics/GC	EPA SW 8100					3	1L 2L	4°C/None
VOC/GCMS	EPA SW 824A					3	40ml VOA 2L	HCY/C/None
VOC/GCMS - Cap.	EPA SW 8250					8	40ml VOA 2L	HCY/C/None
Semi-vol. Org./GCMS - Cap.	EPA SW 8370A					13	1L 2L	4°C/None
Polynuclear Aromatics (PAHs)	EPA SW 8310	X 2 PAH	X 2 PAH	X 2 PAH	X 2 PAH		1L 2L	4°C/None
PARAMETER	METHOD	X	X	X	X	Quantity	Containers	Preservation(s)
by Group Name	SOURCE	Source ID #'s	Source ID #'s	Source ID #'s	Source ID #'s	Units	Required	Used
Gasline Analytical Group	EPA SW-848						Consult Lab	Consult Lab
Reserve Analytical Group	EPA SW-848						Consult Lab	Consult Lab
Lead-Pb Analytical Group	EPA SW-848						Consult Lab	Consult Lab
Total Petroleum Hydrocarbons	FL EPA 821-96	X 2 TPH	X 3 PAH	X 2 TPH	X TPH		Consult Lab	Consult Lab
TCDF Metals (M)	EPA 82100						Consult Lab	Consult Lab
TECP Metals (M) - Hot Spot	EPA SW-848						Consult Lab	Consult Lab
Lead (Pb)	ERM 838.2						230ml 400	1100/None
Other:								

Comments:

Requested by: _____
 Date/Time: _____

Requested by: _____
 Date/Time: _____

[Signature]
 3-28-97 1400

[Signature]
 3-28-97 01400

NPWC 91008

D-75

FAX NO. 1 904 452 2799

NPWC ENV LAB NAS PENSACOLA



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 71523
Sample Date: 04/15/97
Received Date: 04/15/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71523				
Sample Name / Location	Site 19 MW-14				
Collector's Name	MWH				
Date & Time Collected	04/15/97 @ 0845				
Sample Type (composite or grab)	Grab				
Analyst	J. Moore				
Date of Extraction / Initials	04/17/97 JM				
Date of Analysis	04/17/97				
Sample Matrix	GW				
Dilution	X 1				
Compound Name	1- 71523	units	Det. Limit	Flags	
Benzene	BDL	ug/L	1		
Bromodichloromethane	BDL	ug/L	1		
Bromoform	BDL	ug/L	2		
Bromomethane	BDL	ug/L	3		
Carbon Tetrachloride	BDL	ug/L	1		
Chlorobenzene	BDL	ug/L	1		
Chloroethane	BDL	ug/L	1		
2-Chloroethylvinyl ether	BDL	ug/L	1		
Chloroform	BDL	ug/L	1		
Chloromethane	BDL	ug/L	1		
Dibromochloromethane	BDL	ug/L	1		
1,2-Dichlorobenzene	BDL	ug/L	1		
1,3-Dichlorobenzene	BDL	ug/L	1		
1,4-Dichlorobenzene	BDL	ug/L	1		
Dichlorodifluoromethane	BDL	ug/L	1		
1,1-Dichloroethane	BDL	ug/L	1		
1,2-Dichloroethane	BDL	ug/L	1		
1,1-Dichloroethene	BDL	ug/L	1		
trans-1,2-Dichloroethene	BDL	ug/L	1		
1,2-Dichloropropane	BDL	ug/L	1		
cis-1,3-Dichloropropene	BDL	ug/L	1		
trans-1,3-Dichloropropene	BDL	ug/L	1		
Ethylbenzene	BDL	ug/L	1		
Methylene Chloride	BDL	ug/L	1		
Methyl-tert-butyl ether (MTBE) *	BDL	ug/L	1		
1,1,2,2-Tetrachloroethane	BDL	ug/L	1		
Tetrachloroethene	BDL	ug/L	1		
Toluene	BDL	ug/L	1		
1,1,1-Trichloroethane	BDL	ug/L	1		
1,1,2-Trichloroethane	BDL	ug/L	1		
Trichloroethene	BDL	ug/L	1		
Trichlorofluoromethane	BDL	ug/L	1		
Vinyl Chloride	BDL	ug/L	1		
Xylenes (Total)	BDL	ug/L	1		

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	108
Toluene-d8	86-119	102
Bromofluorobenzene	85-116	104

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :

Jerry Dees
Jerry Dees, Laboratory Director

D-76

Date: 5/5/97

Report Generated

End of Report



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 71523
Sample Date: 04/15/97
Received Date: 04/15/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71523			
Sample Name / Location	Site 19 MW-14			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 0845			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	04/18/97 JJ			
Date of Analysis	04/18/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71523	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	BDL	ug/L	2	
2-Methylnaphthalene	BDL	ug/L	3	
Naphthalene	BDL	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

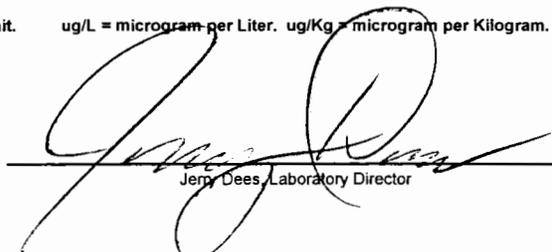
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	78
2-Fluorobiphenyl	43-116	87
Terphenyl -d14	33-141	133

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :



Jerry Dees, Laboratory Director

Date: 5/5/97

Report Generated

D-77



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 71523
Sample Date: 04/15/97
Received Date: 04/15/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71523			
Sample Name / Location	Site 19 MW-14			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 0845			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/15/97 JM			
Date of Analysis	04/15/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71523	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

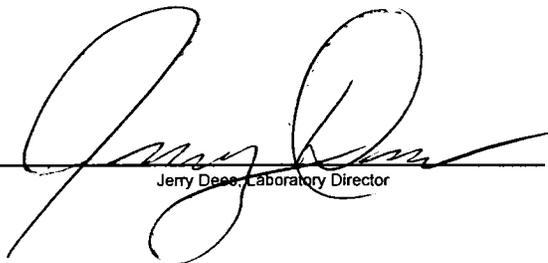
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	65

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :



Jerry Deese, Laboratory Director

Date: 5/5/97

Report Generated

D-78



Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 71523
 Sample Date: 04/15/97
 Received Date: 04/15/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 71523			
Sample Name / Location	Site 19 MW-14			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 0845			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of extraction / Initials	04/23/97 MC			
Date of Analysis	04/23/97			
Sample Matrix	GW			
Dilution	x 1			
Parameter	1- 71523	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	0.25	

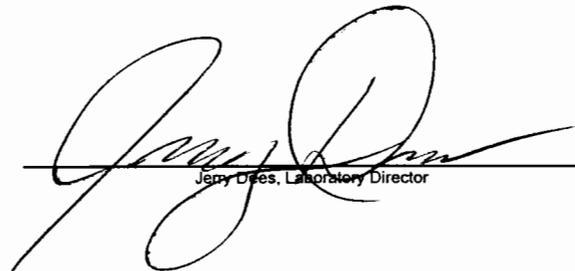
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	117
Nonatriacontane (C-39)	42-193 *	81

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 5/5/97

D-79



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 71524
Sample Date: 04/15/97
Received Date: 04/15/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71524			
Sample Name / Location	Site 19 MW-15			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 0900			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/16/97 JM			
Date of Analysis	04/16/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71524	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

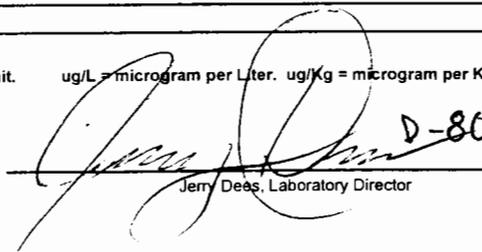
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	106
Toluene-d8	86-119	104
Bromofluorobenzene	85-116	106

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :

 D-80
Jerry Deas, Laboratory Director

Date: 5/5/97

Report Generated



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 71524
Sample Date: 04/15/97
Received Date: 04/15/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71524			
Sample Name / Location	Site 19 MW-15			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 0900			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	04/18/97 JJ			
Date of Analysis	04/18/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71524	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	BDL	ug/L	2	
2-Methylnaphthalene	BDL	ug/L	3	
Naphthalene	BDL	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

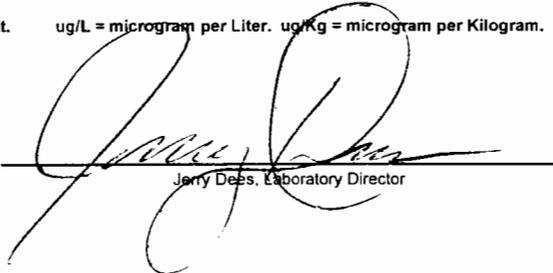
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	78
2-Fluorobiphenyl	43-116	89
Terphenyl -d14	33-141	135

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :



Jerry Dees, Laboratory Director

Date: 5/5/97

Report Generated

D-81



Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 71524
 Sample Date: 04/15/97
 Received Date: 04/15/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 71524			
Sample Name / Location	Site 19 MW-15			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 0900			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/15/97 JM			
Date of Analysis	04/15/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71524	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

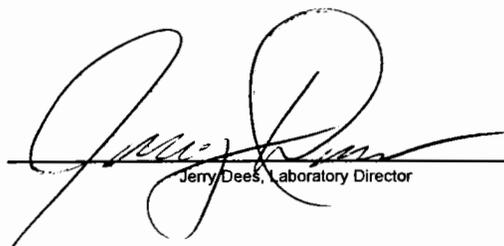
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	106

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 5/5/97

Report Generated

D-82



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 71524
Sample Date: 04/15/97
Received Date: 04/15/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71524			
Sample Name / Location	Site 19 MW-15			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 0900			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of extraction / Initials	04/23/97 MC			
Date of Analysis	04/23/97			
Sample Matrix	GW			
Dilution	x 1			
Parameter	1- 71524	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	0.25	

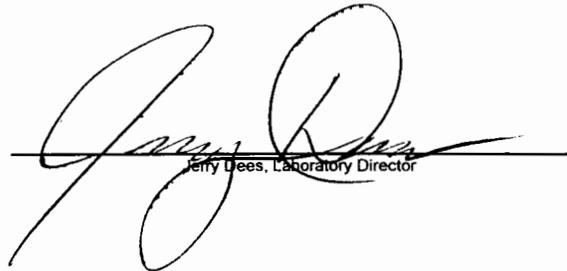
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	122
Nonatriacontane (C-39)	42-193 *	85

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 5/5/97

D-83



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 71525
Sample Date: 04/15/97
Received Date: 04/15/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71525			
Sample Name / Location	Site 19 MW-16			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 0915			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/16/97 JM			
Date of Analysis	04/16/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71525	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/l	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	106
Toluene-d8	86-119	102
Bromofluorobenzene	85-116	105

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter, ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :

Jerry Dees
D-84
Jerry Dees, Laboratory Director

Date: 5/5/97

Report Generated



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 71525
Sample Date: 04/15/97
Received Date: 04/15/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71525			
Sample Name / Location	Site 19 MW-16			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 0915			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	04/18/97 JJ			
Date of Analysis	04/18/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71525	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	BDL	ug/L	2	
2-Methylnaphthalene	BDL	ug/L	3	
Naphthalene	BDL	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

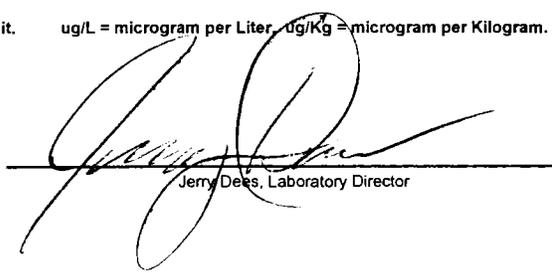
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	79
2-Fluorobiphenyl	43-116	86
Terphenyl -d14	33-141	133

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter, ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :



Jerry Dees, Laboratory Director

Date: 5/5/97

Report Generated

D-85



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 71525
Sample Date: 04/15/97
Received Date: 04/15/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71525			
Sample Name / Location	Site 19 MW-16			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 0915			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/15/97 JM			
Date of Analysis	04/15/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71525	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

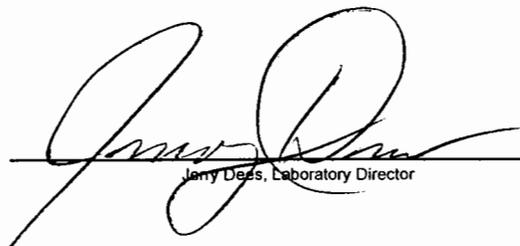
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	72

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :


Jerry Dees, Laboratory Director

Date: 5/5/97

Report Generated

D-86



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 71525
Sample Date: 04/15/97
Received Date: 04/15/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71525			
Sample Name / Location	Site 19 MW-16			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 0915			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of extraction / Initials	04/23/97 MC			
Date of Analysis	04/23/97			
Sample Matrix	GW			
Dilution	x 1			
Parameter	1- 71525	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	0.25	

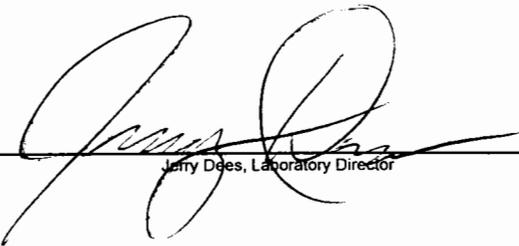
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	120
Nonatriacontane (C-39)	42-193 *	78

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :


Jerry Dees, Laboratory Director

Date: 5/5/97

D-87



Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 71526
 Sample Date: 04/15/97
 Received Date: 04/15/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 71526			
Sample Name / Location	Site 19 MW-17			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 0930			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/16/97 JM			
Date of Analysis	04/16/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71526	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	1	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	107
Toluene-d8	86-119	101
Bromofluorobenzene	85-116	105

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :

Jerry Dees
 D-88
 Jerry Dees, Laboratory Director

Date: 5/5/97

Report Generated

End of Report



Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 71526
 Sample Date: 04/15/97
 Received Date: 04/15/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 71526			
Sample Name / Location	Site 19 MW-17			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 0930			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	04/18/97 JJ			
Date of Analysis	04/18/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71526	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	BDL	ug/L	2	
2-Methylnaphthalene	BDL	ug/L	3	
Naphthalene	BDL	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

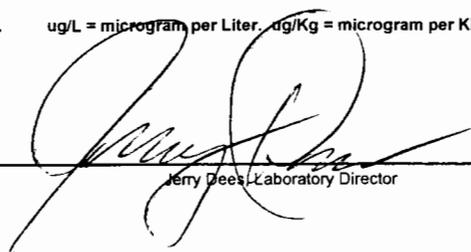
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	76
2-Fluorobiphenyl	43-116	89
Terphenyl -d14	33-141	113

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :



Jerry Dees, Laboratory Director

Date: 5/5/97

Report Generated

D-89



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 71526
 Sample Date: 04/15/97
 Received Date: 04/15/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 71526			
Sample Name / Location	Site 19 MW-17			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 0930			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/15/97 JM			
Date of Analysis	04/15/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71526	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

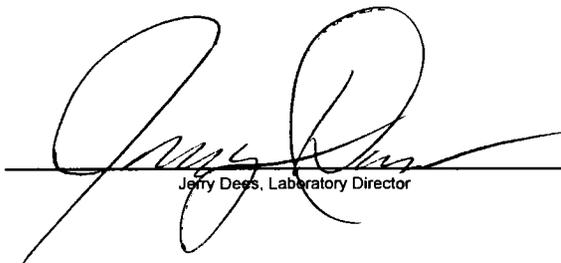
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	95

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 5/5/97

Report Generated

D-90



Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 71526
 Sample Date: 04/15/97
 Received Date: 04/15/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 71526			
Sample Name / Location	Site 19 MW-17			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 0930			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of extraction / Initials	04/23/97 MC			
Date of Analysis	04/23/97			
Sample Matrix	GW			
Dilution	x 1			
Parameter	1- 71526	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	0.25	

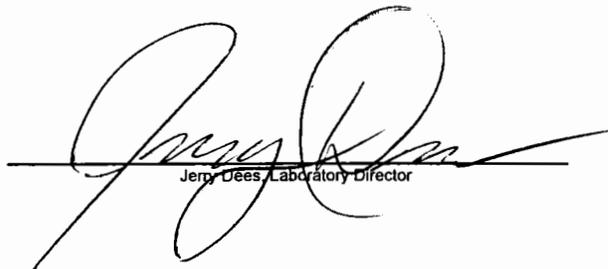
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	122
Nonatriacontane (C-39)	42-193 *	80

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 5/5/97

D-91



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 71527
Sample Date: 04/15/97
Received Date: 04/15/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71527			
Sample Name / Location	Site 19 MW-18			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 0945			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/16/97 JM			
Date of Analysis	04/16/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71527	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/l	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	107
Toluene-d8	86-119	101
Bromofluorobenzene	85-116	102

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :

Jerry Dees
Jerry Dees, Laboratory Director

Date: 5/5/97

Report Generated



Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 71527
 Sample Date: 04/15/97
 Received Date: 04/15/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 71527			
Sample Name / Location	Site 19 MW-18			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 0945			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	04/18/97 JJ			
Date of Analysis	04/18/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71527	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	BDL	ug/L	2	
2-Methylnaphthalene	BDL	ug/L	3	
Naphthalene	BDL	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

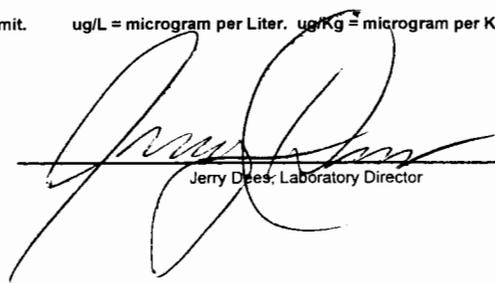
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	80
2-Fluorobiphenyl	43-116	91
Terphenyl -d14	33-141	137

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :


 Jerry Dees, Laboratory Director

Date:

5/5/97

Report Generated

D-93



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 71527
Sample Date: 04/15/97
Received Date: 04/15/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71527			
Sample Name / Location	Site 19 MW-18			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 0945			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/15/97 JM			
Date of Analysis	04/15/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71527	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

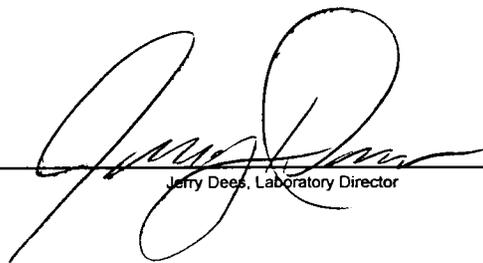
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	100

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 5/5/97

Report Generated

D-94



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 71527
 Sample Date: 04/15/97
 Received Date: 04/15/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 71527			
Sample Name / Location	Site 19 MW-18			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 0945			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of extraction / Initials	04/23/97 MC			
Date of Analysis	04/23/97			
Sample Matrix	GW			
Dilution	x 1			
Parameter	1- 71527	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	0.25	

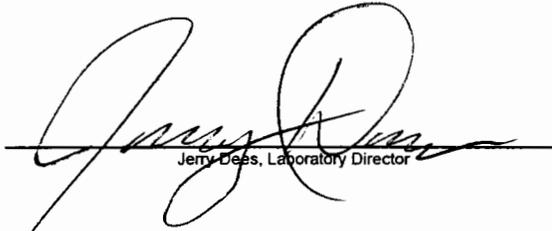
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	118
Nonatriacontane (C-39)	42-193 *	84

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :


 Jerry Dees, Laboratory Director

Date: 5/5/97

D-95



Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 71528
 Sample Date: 04/15/97
 Received Date: 04/15/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 71528			
Sample Name / Location	Site 19 MW-19			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 1000			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/17/97 JM			
Date of Analysis	04/17/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71528	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/l	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	108
Toluene-d8	86-119	102
Bromofluorobenzene	85-116	104

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :

Jerry Dees
 Jerry Dees, Laboratory Director

Date: 5/5/97

Report Generated



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 71528
Sample Date: 04/15/97
Received Date: 04/15/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71528			
Sample Name / Location	Site 19 MW-19			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 1000			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	04/18/97 JJ			
Date of Analysis	04/18/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71528	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	BDL	ug/L	2	
2-Methylnaphthalene	BDL	ug/L	3	
Naphthalene	BDL	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

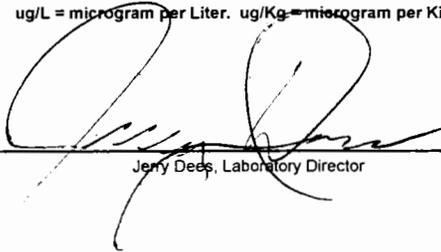
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	79
2-Fluorobiphenyl	43-116	88
Terphenyl -d14	-33-141	134

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :



Jerry Dees, Laboratory Director

Date: 5/5/97

Report Generated

D-97



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 71528
Sample Date: 04/15/97
Received Date: 04/15/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71528			
Sample Name / Location	Site 19 MW-19			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 1000			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/15/97 JM			
Date of Analysis	04/15/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71528	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

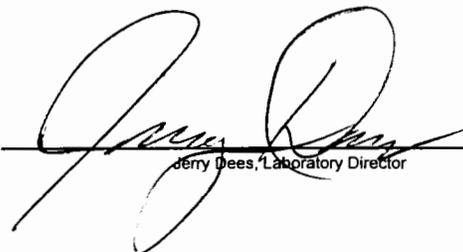
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	95

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 5/5/97

Report Generated

D-98



Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 71528
 Sample Date: 04/15/97
 Received Date: 04/15/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 71528			
Sample Name / Location	Site 19 MW-19			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 1000			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of extraction / Initials	04/23/97 MC			
Date of Analysis	04/23/97			
Sample Matrix	GW			
Dilution	x 1			
Parameter	1- 71528	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	0.25	

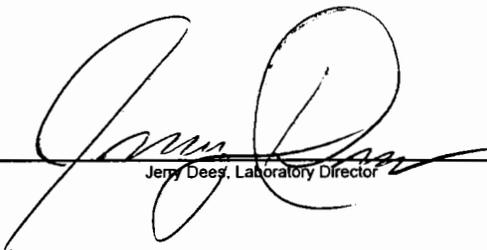
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	114
Nonatriacontane (C-39)	42-193 *	94

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :


 Jerry Dees, Laboratory Director

Date: 5/5/97

D-99



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 71529
Sample Date: 04/15/97
Received Date: 04/15/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71529			
Sample Name / Location	Site 19 Duplicate			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 1015			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/16/97 JM			
Date of Analysis	04/16/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71529	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/l	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	105
Toluene-d8	86-119	102
Bromofluorobenzene	85-116	104

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :

Jerry Dees
Jerry Dees, Laboratory Director

Date: 5/5/97

Report Generated



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 71529
Sample Date: 04/15/97
Received Date: 04/15/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71529			
Sample Name / Location	Site 19 Duplicate			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 1015			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	04/18/97 JJ			
Date of Analysis	04/18/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71529	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	BDL	ug/L	2	
2-Methylnaphthalene	BDL	ug/L	3	
Naphthalene	BDL	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

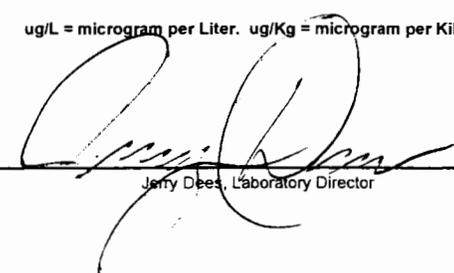
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene-d5	35-114	76
2-Fluorobiphenyl	43-116	89
Terphenyl-d14	.33-141	132

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :


Jerry Dees, Laboratory Director

Date: 5/5/97

Report Generated

D-101



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 71529
Sample Date: 04/15/97
Received Date: 04/15/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 71529			
Sample Name / Location	Site 19 Duplicate			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 1015			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/15/97 JM			
Date of Analysis	04/15/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71529	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

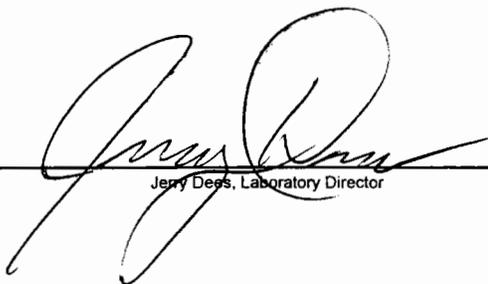
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	67

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 5/5/97

Report Generated

D-102



Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 71529
 Sample Date: 04/15/97
 Received Date: 04/15/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 71529			
Sample Name / Location	Site 19 Duplicate			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 1015			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of extraction / Initials	04/23/97 MC			
Date of Analysis	04/23/97			
Sample Matrix	GW			
Dilution	x 1			
Parameter	1- 71529	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	0.25	

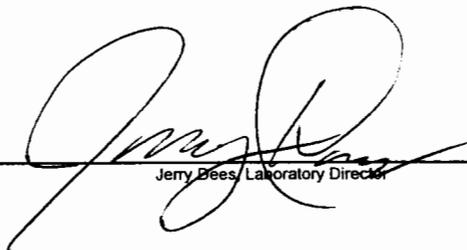
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	100
Nonatriacontane (C-39)	42-193 *	95

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :



 Jerry Dees, Laboratory Director

Date: 5/5/97

D-103



Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 71530
 Sample Date: 04/15/97
 Received Date: 04/15/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 71530			
Sample Name / Location	Site 19 Trip Blank			
Collector's Name	MWH			
Date & Time Collected	04/15/97 @ 1030			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	04/16/97 JM			
Date of Analysis	04/16/97			
Sample Matrix	DI			
Dilution	X 1			
Compound Name	1- 71530	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	105
Toluene-d8	86-119	101
Bromofluorobenzene	85-116	105

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :

Jerry Dees

 Jerry Dees, Laboratory Director

Date: 5/5/97

Report Generated

End of Report



UST CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

NPWC Environmental Laboratory

eg.287, Code 128

NAS Pensacola, FL 32308-6500

PH# (904) 452-4728

Autovox-F22-4728

Requestor:

NPWC Environmental Dept.

Address:

Bldg. 3691, Code 910

NAS Pensacola, FL 32508

Phone #:

(904) 452-3180

Contact:

Greg Campbell

Job Order #:

1305 00-1

Report Required?

Yes No DEPT Yes No

Lab ID Number:

Sample Date:

Received Date:

Sample Size:

Lab Use Date:

4-15-97

4-15-97

NAS-19

Sample ID #	LAB	01- 71523	02- 71524	03- 71525	04- 71526	Notes:		
Sample Name		NAS-19 RC	NAS-17	NAS-17	NAS-19	KAG less lead		
at Location		MW-14	MW-15	MW-16	MW-17			
Sampled by		MWH	MWH	MWH	MWH			
Compos	Begin							
Date/Time	Frequency							
Collected	End							
Obs Time		8:45	9:00	9:15	9:30			
Sample Matrix								
PARAMETER	METHOD #	X	X	X	X	Billing	Containers	Preservative(s)
by Method Name		Bottle ID #'s	Bottle ID #'s	Bottle ID #'s	Bottle ID #'s	Units	Required	Used
Ethylene Oxide (EDG)	EPA 504	X 2 EDG	X 2 EDG	X 2 EDG	X 2 EDG	3	120ml A VOA#4 ea.	None/4° C
Pure Hydrocarbons/GC	EPA 801					4	40 ml VOA Vial x 2	HCY#° C
Pure Aromatics/GC	EPA 802					3	40 ml VOA Vial x 2	HCY#° C
Pure Hols. & Aro./GC	EPA 801/802	X 4 VOA	X 4 VOA	X 4 VOA	X 4 VOA	8	40 ml VOA Vial x 2	HCY#° C
Polyaromatics/HPLC	EPA 810					7	1L Amber x 2	4° C
Polyaromatics/GCMS	EPA 824					8	40 ml VOA Vial x 2	HCY#° C
Benzofurans & Acids/GCMS	EPA 825					13	1L Amber x 2	4° C
Gas Chromatography	EPA SW 8000					5	40ml 2/1Lx2/4 ea.	HCY#° C/None
Hols. Vol. Org./GC	EPA SW 8010					4	40ml VOA#2/4 ea.	HCY#° C/None
Hols-Hols. Vol. Org./GC	EPA SW 8015(MOO)					4	40ml 2/1Lx2/4 ea.	HCY#° C/None
Aro. Vol. Org./GC	EPA SW 8020					3	40ml VOA#2/4 ea.	HCY#° C/None
Hols./Aro. Vol. Org./GC	EPA SW 8010/8020					8	40ml VOA#2/4 ea.	HCY#° C/None
Polyaromatics/GC	EPA SW 8100					8	1Lx2/4 ea.	4° C/None
VOGCMS	EPA SW 820A					8	40ml VOA#2/4 ea.	HCY#° C/None
VOGCMS-Cap.	EPA SW 8280					8	40ml VOA#2/4 ea.	HCY#° C/None
Sesqui. Org./GCMS-Cap.	EPA SW 8270A					18	1Lx2/4 ea.	4° C/None
Polyaromatics (PAHs)	EPA SW 8310	X 2 PAH	X 2 PAH	X 2 PAH	X 2 PAH		1Lx2/4 ea.	4° C/None
PARAMETER	METHOD					Billing	Containers	Preservative(s)
by Group Name	SOURCE	X	X	X	X	Units	Required	Used
Gasoline Analytical Group	EPA SW-848						Consult Lab	Consult Lab
Excess Analytical Group	EPA SW-848						Consult Lab	Consult Lab
Mixed Product Analytical Group	EPA SW-848						Consult Lab	Consult Lab
Total Petroleum Hydrocarbons	FL EPA 71.1.1	X 2 TPH	X 2 TPH	X 2 TPH	X 2 TPH		Consult Lab	Consult Lab
HCPA Metals (8)	EPA Various						Consult Lab	Consult Lab
TCLP Metals (8) retraction	EPA SW-848						Consult Lab	Consult Lab
Lead (Pb)	EPA 231.2						230ml ea.	1HQ/None
Other:								

Comments:

Requested by: MARK HAROLD Ives
Date/Time: 4/15/97 1315

Received by: Kathy Brewer
Date/Time: 4/15/97 1315

FWC 15409



UST CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

NPWC Environmental Laboratory

Box 387, Code 900

Pensacola, FL 32506-0387

Phone - (904) 452-4728

Afternoon - 722-4728

Requestor:

Address:

Phone #:

Contact:

Job Order #:

NPWC Environmental Dept.

Bldg. 3691, Code 910

NAS Pensacola, FL 32508

(904) 452-3180

Greg Campbell

1305 00

Report Required?

Yes No DEP? Yes No

Lab ID Number:

Sample Date:

Received Date:

Sample Desc:

Lab Use Desc:

4-15-97
4-15-97
NAS-19

Notes:
KAG
Loss L.RAL

Sample ID #	Lab	01-11527	02-11528	03-11529	04-11530	Notes						
Sample Name		NA6-19	NA5-19	NA5-19	NA5-19	KAG Loss L.RAL						
or Location		MW-18	MW-19	Duplicate	TRIO BLANK							
Sampled by		MWH	MWH	MWH	MWH							
Compos	Begin											
Date/Time	Frequency											
Collected	End											
Emb Time		9:45	10:00	10:15	10:30							
Sample Matrix												
PARAMETER	METHOD #	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Ethylene Oxide (EDS)	EPA 304	X	2 EDR	X	2 EDR	X	2 EDR	X	2 EDR	3	120ml A VOA# 02	None/4°C
Pery. Heterocyclic/OC	EPA 801									4	40 ml VOA Vial # 2	HCF4°C
Pery. Aromatic/OC	EPA 902									3	40 ml VOA Vial # 2	HCF4°C
Pery. Hetero. & Aro./OC	EPA 801/902	X	4 UOA	X	4 UOA	X	4 UOA	X	4 UOA	8	40 ml VOA Vial # 2	HCF4°C
Polynuclear Aromatic/HPLC	EPA 810									7	1L Amber # 2	4°C
Polynuclear/OCMS	EPA 824									8	40 ml VOA Vial # 2	HCF4°C
Benzofurans & Acids/OCMS	EPA 825									13	1L Amber # 2	4°C
Gas Chromatography	EPA SW 8000									3	40ml 2/1L 2/4 oz.	HCF4°C/None
Hetero. Vol. Org./OC	EPA SW 8010									4	40ml VOA#2# 02	HCF4°C/None
Hetero-Hetero. Vol. Org./OC	EPA SW 8015/8001									4	40ml 2/1L 2/4 oz.	HCF4°C/None
Arom. Vol. Org./OC	EPA SW 8020									3	40ml VOA#2# 02	HCF4°C/None
Hetero./Arom. Vol. Org./OC	EPA SW 8010/8020									8	40ml VOA#2# 02	HCF4°C/None
Polynuclear Aromatic/OC	EPA SW 8100									8	1L 2/4 oz.	4°C/None
VOOCMS	EPA SW 8240A									8	40ml VOA#2# 02	HCF4°C/None
VOOCMS - Cap.	EPA SW 8280									8	40ml VOA#2# 02	HCF4°C/None
SemiVol. Org./OCMS - Cap.	EPA SW 8270A									18	1L 3/4 oz.	4°C/None
Polynuclear Aromatic (PAH)	EPA SW 8310	X	2 PAH	X	2 PAH	X	2 PAH	X	2 PAH	4	1L 3/4 oz.	4°C/None
PARAMETER	METHOD	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Gasoline Analytical Group	EPA SW-846										Consult Lab	Consult Lab
Kerosene Analytical Group	EPA SW-846										Consult Lab	Consult Lab
Mixed Product Analytical Group	EPA SW-846										Consult Lab	Consult Lab
Total Petroleum Hydrocarbons	EPA 821.1 B	X	2 TPH	X	2 TPH	X	2 TPH	X	2 TPH		Consult Lab	Consult Lab
PCPA Metals (8)	EPA Various										Consult Lab	Consult Lab
TCMP Metals (8) in extraction	EPA SW-846										Consult Lab	Consult Lab
Lead (Pb)	EPA 821.2										250ml 4 oz.	1840/None
Other:												

Comments:

Retransmitted by:

Date/Time:

MARK HARDEN/Wes
4/15/97 1315

Received by:

Date/Time:

Kathy B...
4/15/97 1315

FWC 15408

D-106



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 72505
Sample Date: 05/29/97
Received Date: 05/29/97
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 72505			
Sample Name / Location	NAS-19 DMW-20			
Collector's Name	MH			
Date & Time Collected	05/29/97 @ 1300			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	05/30/97 JM			
Date of Analysis	05/30/97			
Sample Matrix	GW			
Dilution	X 2 *			
Compound Name	1- 72505	units	Det. Limit	Flags
Benzene	3	ug/L	2	
Bromodichloromethane	BDL	ug/L	2	
Bromoform	BDL	ug/L	4	
Bromomethane	BDL	ug/L	6	
Carbon Tetrachloride	BDL	ug/L	2	
Chlorobenzene	BDL	ug/L	2	
Chloroethane	BDL	ug/L	2	
2-Chloroethylvinyl ether	BDL	ug/L	2	
Chloroform	BDL	ug/L	2	
Chloromethane	BDL	ug/L	2	
Dibromochloromethane	BDL	ug/L	2	
1,2-Dichlorobenzene	BDL	ug/L	2	
1,3-Dichlorobenzene	BDL	ug/L	2	
1,4-Dichlorobenzene	BDL	ug/L	2	
Dichlorodifluoromethane	BDL	ug/L	2	
1,1-Dichloroethane	BDL	ug/L	2	
1,2-Dichloroethane	BDL	ug/L	2	
1,1-Dichloroethene	BDL	ug/L	2	
trans-1,2-Dichloroethene	BDL	ug/L	2	
1,2-Dichloropropane	BDL	ug/L	2	
cis-1,3-Dichloropropene	BDL	ug/L	2	
trans-1,3-Dichloropropene	BDL	ug/L	2	
Ethylbenzene	6	ug/L	2	
Methylene Chloride	BDL	ug/L	2	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/L	2	
1,1,2,2-Tetrachloroethane	BDL	ug/L	2	
Tetrachloroethene	BDL	ug/L	2	
Toluene	BDL	ug/L	2	
1,1,1-Trichloroethane	BDL	ug/L	2	
1,1,2-Trichloroethane	BDL	ug/L	2	
Trichloroethene	BDL	ug/L	2	
Trichlorofluoromethane	BDL	ug/L	2	
Vinyl Chloride	BDL	ug/L	2	
Xylenes (Total)	60	ug/L	2	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	101
Toluene-d8	86-119	100
Bromofluorobenzene	85-116	102

COMMENTS : * = Dilution due to high amount of silt.

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :

Jerry Dees
Jerry Dees, Laboratory Director

Date: 6/24/97

Report Generated

Page 1 of 1

End of Report



Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 72505
 Sample Date: 05/29/97
 Received Date: 05/29/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 72505			
Sample Name / Location	NAS-19 DMW-20			
Collector's Name	MH			
Date & Time Collected	05/29/97 @ 1300			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	06/11/97 JJ			
Date of Analysis	06/11/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1-	72505	units	Det. Limit
Flags				
Acenaphthene	BDL		ug/L	2
Acenaphthylene	BDL		ug/L	2
Anthracene	BDL		ug/L	2
Benzo(a)anthracene	BDL		ug/L	2
Benzo(a)pyrene	BDL		ug/L	2
Benzo(b)fluoranthene	BDL		ug/L	2
Benzo(g,h,i)perylene	BDL		ug/L	2
Benzo(k)fluoranthene	BDL		ug/L	3
Chrysene	BDL		ug/L	2
Dibenz(a,h)anthracene	BDL		ug/L	2
Fluoranthene	BDL		ug/L	2
Fluorene	BDL		ug/L	2
Indeno(1,2,3-cd)pyrene	BDL		ug/L	2
1-Methylnaphthalene *	BDL		ug/L	2
2-Methylnaphthalene	BDL		ug/L	3
Naphthalene	2		ug/L	2
Phenanthrene	BDL		ug/L	2
Pyrene	BDL		ug/L	2

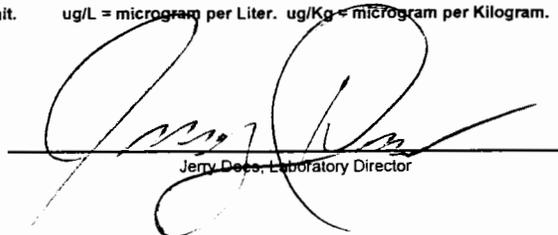
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	87
2-Fluorobiphenyl	43-116	91
Terphenyl -d14	33-141	109

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :



Jerry Dees, Laboratory Director

Date: 6/24/97

Report Generated

D-108



Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 72505
 Sample Date: 05/29/97
 Received Date: 05/29/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 72505			
Sample Name / Location	NAS-19 DMW-20			
Collector's Name	MH			
Date & Time Collected	05/29/97 @ 1300			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	06/06/97 MC			
Date of Analysis	06/06/97			
Sample Matrix	GW			
Dilution	X		1	
Compound Name	1- 72505	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

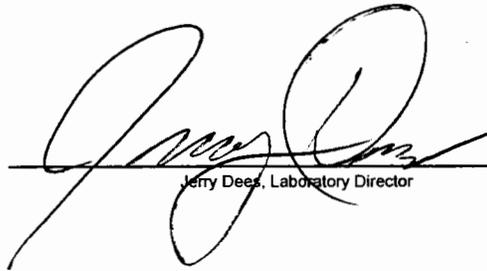
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	85

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 6/24/97

Report Generated

D-109



Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-3180
 Contact: Greg Campbell

Analytical Report

Petroleum Range Organics by FLPRO

Lab Report Number: 72505
 Sample Date: 05/29/97
 Received Date: 05/29/97
 Sample Site: NAS Pensacola, FL
 Job Order No.: 130 5001

LAB Sample ID#	1- 72505			
Sample Name / Location	NAS-19 DMW-20			
Collector's Name	MH			
Date & Time Collected	05/29/97 @ 1300			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of extraction / Initials	06/11/97 JJ			
Date of Analysis	06/16/97			
Sample Matrix	GW			
Dilution	x 1			
Parameter	1- 72505	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	0.25	

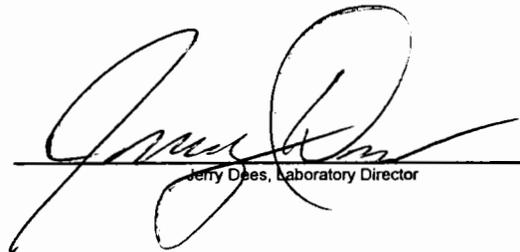
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	69
Nonatriacontane (C-39)	42-193 *	72

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :


 Jerry Dees, Laboratory Director

Date: 6/24/97

D-110



UST CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Environmental Laboratory
 1287, Code 828
 NAS Pensacola, FL 32508-8200

PH# - (904) 452-4728
 Address - 722-4728

Requester: **NPWC Environmental Dept.**
 Address: **Bldg. 3691, Code 910**
NAS Pensacola, FL 32508
 Phone #: **(904) 452-3180**
 Contact: **Greg Campbell**
 Job Order #: **X305001**

Report Required? Yes No DEPT Yes No
 Lab ID Number: _____
 Sample Date: 5-29-97
 Received Date: 5-29-97
 Sample S#s: NAS-19
 Lab Due Date: _____

Sample ID #	Lab	11-7-2506	12-7-2506	13-	14-	Notes: KAG Loss P						
Sample Name	-----	NAS-19	NAS-19									
or Location	-----	DMW-20	TRIPBAR									
Sampled by	-----	MH	MH									
Composite	Begin											
Date/Time	Frequency											
Collected	End											
Grab Time	-----	1300hr										
Sample Matrix	-----	GW	DI									
PARAMETER	METHOD #	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Ethylene Dibromide (EDB)	EPA 804	X	2-EDB							3	120ml A VOA/4 oz.	None/4°C
Perg. Halocarbons/GC	EPA 801									4	40 ml VOA Vial x 2	HCY4°C
Perg. Aromatics/GC	EPA 802									3	40 ml VOA Vial x 2	HCY4°C
Perg. Hols. & Ars./GC	EPA 801/802	X	4-DOA	X	2 DOA					8	40 ml VOA Vial x 2	HCY4°C
Polynucleot Aromatics/HPLC	EPA 810									7	1L Amber x 2	4°C
Peroxyblets/GCMS	EPA 824									8	40 ml VOA Vial x 2	HCY4°C
Benzofurans & Acids/GCMS	EPA 823									15	1L Amber x 2	4°C
Gas Chromatography	EPA SW 8000									3	40ml 2/1Lx2/4 oz.	HCY4°C/None
Vol. Org./GC	EPA SW 8010									4	40ml VOAx2/4 oz.	HCY4°C/None
Non-Hals. Vol. Org./GC	EPA SW 8015(MOC)									4	40ml 2/1Lx2/4 oz.	HCY4°C/None
Arom. Vol. Org./GC	EPA SW 8020									3	40ml VOAx2/4 oz.	HCY4°C/None
Hals./Arom. Vol. Org./GC	EPA SW 8010/8020									8	40ml VOAx2/4 oz.	HCY4°C/None
Polynucleot Aromatics/GC	EPA SW 8100									8	1Lx2/4 oz.	4°C/None
VOCGCMS	EPA SW 8240A									8	40ml VOAx2/4 oz.	HCY4°C/None
VOCGCMS - Cap.	EPA SW 8280									8	40ml VOAx2/4 oz.	HCY4°C/None
Sesquid. Org./GCMS - Cap.	EPA SW 8270A									16	1Lx3/4 oz.	4°C/None
Polynucleot Aromatics (PAHs)	EPA SW 8310	X	2 PAH								1Lx3/4 oz.	4°C/None
PARAMETER	METHOD	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Gasoline Analytical Group	EPA SW-648										Consult Lab	Consult Lab
Kerosene Analytical Group	EPA SW-648										Consult Lab	Consult Lab
Mixed Product Analytical Group	EPA SW-648										Consult Lab	Consult Lab
Total Petroleum Hydrocarbons	EPA 8240A		2 TPH								Consult Lab	Consult Lab
HCPA Metals (8)	EPA Various										Consult Lab	Consult Lab
TCLP Metals (8) extraction	EPA SW-648										Consult Lab	Consult Lab
Lead (Pb)	EPA 8262										250ml/4 oz.	1MNO/None
Other:												

Comments:

Requested by:
 Date/Time

MARK HAYDEN
5-29-97 1515

Received by:
 Date/Time

[Signature]
5/29/1515

PWC 98109

D-111



**Navy Public Works Center
Environmental Laboratory**

Bldg.3887, Code 440
NAS Pensacola, FL 32508
Phone (850) 452-3180/3642
DSN 922-3180/3642

Requester: NPWC Engineering
Address: Bldg. 458, Code 431
NAS Pensacola, FL 32508
Phone #: 452-4315
Contact: Greg Campbell

Laboratory Report

Lead in Water by Method 239.2

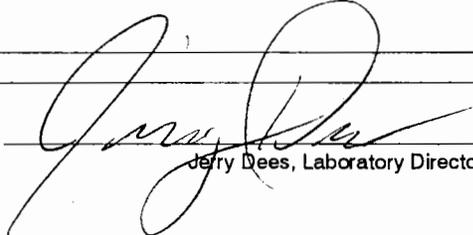
Lab ID Number: 9710054 A
Sample Date: 16 Sep 97
Received Date: 18 Sep 97
Sample Site: NASP Site #19
Job Order #: 130 5001

Sample ID#	Lab	1- 74162			2- 74163			3- 74164			4- 74165			Analyst(s):
Sample Name	Requester	Site 19 MW #14			Site 19 MW #2			Site 19 MW #3			Site 19 MW #17			Brian Nelson
Collector Name		Zientarski/Hagendorfer			Zientarski/Hagendorfer			Zientarski/Hagendorfer			Zientarski/Hagendorfer			
Date/Time Collected (Military)	Comp start													Date(s) of analysis: 29 Sep 97
	Comp stop													
	Grab	16 Sep 97	@	1039	16 Sep 97	@	1144	16 Sep 97	@	1231	16 Sep 97	@	1406	
Sample Type	Comp/Grab	Grab			Grab			Grab			Grab			
Sample Matrix		Groundwater			Groundwater			Groundwater			Groundwater			
PARAMETER		ID#		Det.										
Metals:	METHOD #	1- 74162	units	Limit	2- 74163	units	Limit	3- 74164	units	Limit	4- 74165	units	Limit	Preservative(s)
Lead(Pb)	EPA 239.2	X	BDL	mg/l	0.003	X	BDL	mg/l	0.003	X	BDL	mg/l	0.003	None

D-112

Sample ID#	Lab	5- 74166			6- 74167			7- 74168			8- 74169			Analyst(s):
Sample Name	Requester	Site 19 MW #10			Site 19 MW #19			Site 19 MW #16			Site 19 MW #15			Brian Nelson
Collector Name		Zientarski/Hagendorfer			Zientarski/Hagendorfer			Zientarski/Hagendorfer			Zientarski/Hagendorfer			
Date/Time Collected (Military)	Comp start													Date(s) of analysis: 29 Sep 97
	Comp stop													
	Grab	16 Sep 97	@	1453	16 Sep 97	@	1603	16 Sep 97	@	1724	16 Sep 97	@	1803	
Sample Type	Comp/Grab	Grab			Grab			Grab			Grab			
Sample Matrix		Groundwater			Groundwater			Groundwater			Groundwater			
PARAMETER		ID#		Det.										
Metals:	METHOD #	5- 74166	units	Limit	6- 74167	units	Limit	7- 74168	units	Limit	8- 74169	units	Limit	Preservative(s)
Lead(Pb)	EPA 239.2	X	BDL	mg/l	0.003	X	BDL	mg/l	0.003	X	BDL	mg/l	0.003	None

Comments: mg/l=milligrams per liter. NS=Not Submitted.

Approved by: 
Jerry Dees, Laboratory Director

Date/Time: 14-Oct-97 10:15

Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 440
 NAS Pensacola, FL 32508
 Phone (850) 452-3180/3642
 DSN 922-3180/3642

Requester: NPWC Engineering
Address: Bldg. 458, Code 431
 NAS Pensacola, FL 32508
Phone #: 452-4315
Contact: Greg Campbell

Laboratory Report

Lead in Water by Method 239.2

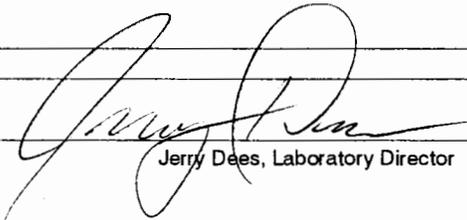
Lab ID Number: 9710054 B
Sample Date: 16 Sep 97
Received Date: 18 Sep 97
Sample Site: NASP Site #19
Job Order #: 130 5001

Sample ID#	Lab	1- 74170			2- 74171			3- 74172			4- 74173			Analyst(s):				
Requester		Site 19 Dup #2			Site 19 MW #11			Site 19 MW #18			Site 19 MW #5			Brian Nelson				
Collector Name		Zientarski/Hagendorfer			Zientarski/Hagendorfer			Zientarski/Hagendorfer			Zientarski/Hagendorfer							
Date/Time Collected (Military)	Comp start													Date(s) of analysis:				
	Comp stop																	
	Grab	16 Sep 97	@	1803	16 Sep 97	@	1831	16 Sep 97	@	1849	16 Sep 97	@	1610	29 Sep 97				
Sample Type	Comp/Grab	Grab			Grab			Grab			Grab							
Sample Matrix		Groundwater			Groundwater			Groundwater			Groundwater							
PARAMETER		ID#	units	Det. Limit	Preservative(s)													
Metals:	METHOD #	1- 74170	units	Limit	2- 74171	units	Limit	3- 74172	units	Limit	4- 74173	units	Limit					
Lead(Pb)	EPA 239.2	X	BDL	mg/l	0.003	X	BDL	mg/l	0.003	X	BDL	mg/l	0.003	X	0.004	mg/l	0.003	None

D-113

Sample ID#	Lab	5- 74174			6- 74175			7- 74176			8- 74177			Analyst(s):				
Requester		Site 19 MW #4			Site 19 MW #9			Site 19 MW #1			Site 19 Dup #1			Brian Nelson				
Collector Name		Zientarski/Hagendorfer			Zientarski/Hagendorfer			Zientarski/Hagendorfer			Zientarski/Hagendorfer							
Date/Time Collected (Military)	Comp start													Date(s) of analysis:				
	Comp stop																	
	Grab	16 Sep 97	@	1453	16 Sep 97	@	1413	16 Sep 97	@	1329	16 Sep 97	@	1329	29 Sep 97				
Sample Type	Comp/Grab	Grab			Grab			Grab			Grab							
Sample Matrix		Groundwater			Groundwater			Groundwater			Groundwater							
PARAMETER		ID#	units	Det. Limit	Preservative(s)													
Metals:	METHOD #	5- 74174	units	Limit	6- 74175	units	Limit	7- 74176	units	Limit	8- 74177	units	Limit					
Lead(Pb)	EPA 239.2	X	BDL	mg/l	0.003	X	BDL	mg/l	0.003	X	BDL	mg/l	0.003	X	BDL	mg/l	0.003	None

Comments: mg/l=milligrams per liter. NS=Not Submitted.

Approved by:  Date/Time: 14-Oct-97 10:18
 Jerry Dees, Laboratory Director

Navy Public Works Center Environmental Laboratory

Bldg.3887, Code 440
NAS Pensacola, FL 32508
Phone (850) 452-3180/3642
DSN 922-3180/3642

Requester: NPWC Engineering
Address: Bldg. 458, Code 431
NAS Pensacola, FL 32508
Phone #: 452-4315
Contact: Greg Campbell

Laboratory Report

Lead in Water by Method 239.2

Lab ID Number: 9710054 C
Sample Date: 16 Sep 97
Received Date: 18 Sep 97
Sample Site: NASP Site #19
Job Order #: 130 5001

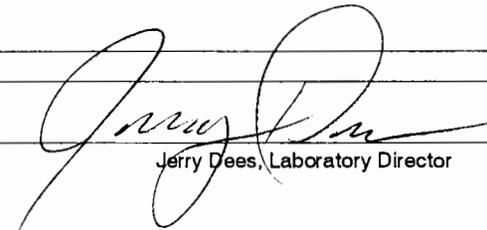
Sample ID#	Lab	1- 74178			2- 74179			3- 74180			4- 74181			Analyst(s):				
Sample Name	Requester	Site 19 MW #6			Site 19 MW #12			Site 19 MW #8			Site 19 MW #7			Brian Nelson				
Collector Name		Zientarski/Hagendorfer			Zientarski/Hagendorfer			Zientarski/Hagendorfer			Zientarski/Hagendorfer							
Date/Time Collected (Military)	Comp start													Date(s) of analysis:				
	Comp stop														29 Sep 97			
	Grab	16 Sep 97	@	1149	16 Sep 97	@	1054	16 Sep 97	@	1018	16 Sep 97	@	1011					
Sample Type	Comp/Grab	Grab			Grab			Grab			Grab							
Sample Matrix		Groundwater			Groundwater			Groundwater			Groundwater							
PARAMETER		ID#	units	Det. Limit	Preservative(s)													
Metals:	METHOD #	1- 74178			2- 74179			3- 74180			4- 74181							
Lead(Pb)	EPA 239.2	X	BDL	mg/l	0.003	X	0.007	mg/l	0.003	X	0.011	mg/l	0.003	X	BDL	mg/l	0.003	None

D-114

Sample ID#	Lab	5- 74182			6- 74183			7-	8-	Analyst(s):				
Sample Name	Requester	Site 19 MW #13			Site 19 Equipment Blank					Brian Nelson				
Collector Name		Zientarski/Hagendorfer			Zientarski/Hagendorfer									
Date/Time Collected (Military)	Comp start									Date(s) of analysis:				
	Comp stop										29 Sep 97			
	Grab	16 Sep 97	@	1708	16 Sep 97	@	1637							
Sample Type	Comp/Grab	Grab			Grab									
Sample Matrix		Groundwater			Groundwater									
PARAMETER		ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	ID#	units	Det. Limit	Preservative(s)
Metals:	METHOD #	5- 74182			6- 74183			7-			8-			
Lead(Pb)	EPA 239.2	X	0.004	mg/l	0.003	X	BDL	mg/l	0.003			mg/l	0.003	None

Comments: mg/l=milligrams per liter. NS=Not Submitted.

Approved by: _____


Jerry Dees, Laboratory Director

Date/Time: 14-Oct-97 10:23

AEN ACCESSION #: _____

ART 1 - Bottle Shipment Information

CLIENT:										CLIENT PROJECT NUMBER:														
QUANTITY OF SAMPLE CONTAINERS SHIPPED	PRESERVATIVE						PLASTIC CONTAINERS					GLASS CONTAINERS					NOTES							
	H ₂ SO ₄	HNO ₃	HCL	Zn Acetate	Na ₂ S ₂ O ₃	Unpreserved	NaOH	8 oz.	16 oz.	32 oz.	1/2 gallon	1 gallon	Whirl-pak	100-ML Cup	120 ml (A)	1 liter (A)		1 liter (C)	40 ml Vial	4 oz. w/m	8 oz. w/m	16 oz. w/m	32 oz. w/m	D.I. Trip Blank

AEN ACCESSION #: _____

PART 1 - Bottle Shipment Information

CLIENT:										CLIENT PROJECT NUMBER:														
QUANTITY OF SAMPLE CONTAINERS SHIPPED	PRESERVATIVE							PLASTIC CONTAINERS					GLASS CONTAINERS							NOTES				
	H ₂ SO ₄	HNO ₃	HCL	Zn Acetate	Na ₂ S ₂ O ₃	Unpreserved	NaOH	8 oz.	16 oz.	32 oz.	1/2 gallon	1 gallon	Whirl-pak	100-ML Cup	120 ml (A)	1 liter (A)	1 liter (C)	40 ml Vial	4 oz. wm		8 oz. wm	16 oz. wm	32 oz. wm	D.I. Trip Blank

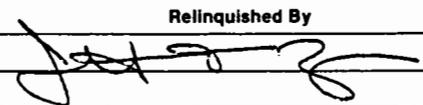
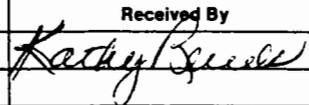
CHAIN OF CUSTODY

AEN ACCESSION #: _____

ART 1 - Bottle Shipment Information

CLIENT:										CLIENT PROJECT NUMBER:														
QUANTITY OF SAMPLE CONTAINERS SHIPPED	PRESERVATIVE							PLASTIC CONTAINERS					GLASS CONTAINERS					NOTES						
	H ₂ SO ₄	HNO ₃	HCL	Zn Acetate	Na ₂ S ₂ O ₃	Unpreserved	NaOH	8 oz.	16 oz.	32 oz.	½ gallon	1 gallon	Whirl-pak	100-ML Cup	120 ml (A)	1 liter (A)	1 liter (C)		40 ml Vial	4 oz. wm	8 oz. wm	16 oz. wm	32 oz. wm	D.I. Trip Blank
Relinquished By:					Time		Date		Received By:					Time		Date								

PART 2 - Sample/Project Information					PARAMETERS AND PRESERVATIVES REQUESTED																		
SAMPLE MATRIX CODES DW DRINKING WATER AI AIR SW SURFACE WATER WW WASTEWATER SO SOIL SL SLUDGE GW GROUNDWATER OI OIL ST STORMWATER					Pb	PH, Cond	Temp	Water Level											TOTAL # OF BOTTLES				
SAMPLE I.D.	SAMPLE DATE	SAMPLE TIME	MATRIX																				
MW-13	9-16-97	1708	GW	✓	✓	✓	✓																1
Equipment Blank	9-16-97	1637	Water	✓																			1
DMW-20	9-16-97	PM	GW				✓																0

Total Number of Bottles/Containers:										2			
Relinquished By					Date	Time	Received By					Date	Time
					9-17-97	0900						9/18/97	0840

Client NAS				Purchase Order Number			
Address				Project Number			
City		State		Zip		Project Name Site 19	
Phone Number ()		Fax Number ()		Project Location NAS		Sampled By Zientarski/Hagendryas	
Project Manager							

TURNAROUND TIMES	check below	SPECIAL INSTRUCTIONS
Standard - 14-21 days		
RUSH (must be approved in advance)		
< - 48 hours - 2x standard price		
3-7 days - 1.5x standard price		
TCLP - 1 week rush 1.5x standard price		
QC Level none I II III IV (circle one)		Copies of report needed _____

Navy Public Works Center Environmental Laboratory

Bldg.3887, Code 440
NAS Pensacola, FL 32508
Phone (850) 452-3180/3642
DSN 922-3180

Requester: NPWC Engineering
Address: Bldg. 458, Code 431
NAS Pensacola, FL 32508
Phone #: 452-4315
Contact: Greg Campbell

Laboratory Report

Total Lead in Water by Method 239.2

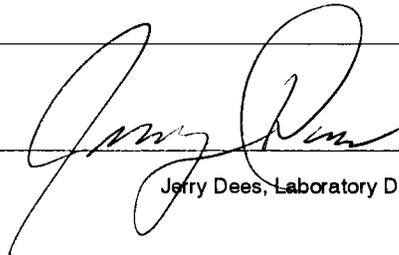
Report Number: 9710002
Sample Date: 19 Sep 97
Received Date: 19 Sep 97
Sample Site: NASP Site 19
Job Order #: 130 5001

Sample ID#	Lab	1- 74185		2-	3-	4-	Analyst(s):	
Sample Name	Requester	Site 19 DMW #20					Brian Nelson	
Collector Name		R.H.						
Date/Time Collected (Military)	Comp start						Date(s) of analysis:	
	Comp stop							
	Grab	19 Sep 97	@ 1046				29 Sep 97	
Sample Type	Comp/Grab	Grab						
Sample Matrix		Groundwater						
PARAMETER		ID#	Det.	ID#	Det.	ID#	Det.	
Metals:	METHOD #	1- 74185	units Limit	2-	units Limit	3-	units Limit	4- Preservative(s)
Lead(Pb)	EPA 239.2	X	BDL mg/l 0.003		mg/l 0.003		mg/l 0.003	HNO ₃ to pH <2

D-119

Comments: mg/l=milligrams per liter.

Approved by: _____



Jerry Dees, Laboratory Director

Date/Time: 03-Oct-97 09:50

PON 9/29/97
 OCT. 0.003

CHAIN OF CUSTODY/REQUEST FOR ANALYSIS (UST Projects)

NPWC Environmental Laboratory

Report Required? Yes No QC Required? Yes No

Bldg. 3887, Code 920

Requester: Greg Campbell

NAS Pensacola, Fl. 32508

Address: PWC Bldg. Code 400

Lab ID Number: B458

Phone - (904) 452-4728/3642

Phone #: 2-4315

Sample Date: 9-19-97

DSN 922-4728/3642

Contact: Greg Campbell

Received Date: 9-19-97

FAX (904) 452-2799/2387

Job Order #: 1305001

Sample Site: NAS Site 19

Lab Due Date:

Sample ID #	Lab	#1-7-4185	#2-	#3-	#4-	Notes:						
Sample Name	-----	Site 19				Present Sample for <u>Pb</u>						
or Location	-----	DMW# 20										
Sampled by	-----	RH										
Composite	Begin											
Date/Time	Frequency	9-19-97										
Collected	End											
Grab Time	-----	1046										
Sample Matrix	-----	GW										
PARAMETER by Method Name	METHOD #	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Ethylene Dibromide (EDB)	EPA 504									3	120ml A VOA/4 oz.	None/4° C
Purg. Halocarbons/GC	EPA 601									4	40 ml VOA Vial x 2	HCl/4° C
Purg. Aromatics/GC	EPA 602									3	40 ml VOA Vial x 2	HCl/4° C
Purg. Halo. & Aro./GC	EPA 601/602									6	40 ml VOA Vial x 2	HCl/4° C
Polynuclear Aromatics/HPLC	EPA 610									7	1L Amber x 2	4° C
Purgeables/GCMS	EPA 624									8	40 ml VOA Vial x 2	HCl/4° C
Base/Neutrals & Acids/GCMS	EPA 625									15	1L Amber x 2	4° C
Gas Chromatography	EPA SW 8000									5	40mb2/1Lx2/4 oz.	HCl/4° C/None
Halo. Vol. Org./GC	EPA SW 8010									4	40ml VOAx2/4 oz.	HCl/4° C/None
Non-Halo. Vol. Org./GC	EPA SW 8015(MOD)									4	40mb2/1Lx2/4 oz.	HCl/4° C/None
Arom. Vol. Org./GC	EPA SW 8020									3	40ml VOAx2/4 oz.	HCl/4° C/None
Halo./Arom. Vol. Org./GC	EPA SW 8010/8020									6	40ml VOAx2/4 oz.	HCl/4° C/None
Polynuclear Aromatics/GC	EPA SW 8100									6	1Lx2/4 oz.	4° C/None
VOC/GCMS	EPA SW 8240A									8	40ml VOAx2/4 oz.	HCl/4° C/None
VOC/GCMS - Cap.	EPA SW 8280									8	40ml VOAx2/4 oz.	HCl/4° C/None
Semivol. Org./GCMS - Cap.	EPA SW 8270A									16	1Lx3/4 oz.	4° C/None
Polynuclear Aromatics (PAHs)	EPA SW 8310									9	1Lx3/4 oz.	4° C/None
PARAMETER by Group Name	METHOD SOURCE	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Gasoline Analytical Group	EPA SW-846									47	Consult Lab	Consult Lab
Kerosene Analytical Group	EPA SW-846									39	Consult Lab	Consult Lab
Mixed Product Analytical Group	EPA SW-846									24	Consult Lab	Consult Lab
Total Petroleum Hydrocarbons	EPA 418.1									2	Consult Lab	Consult Lab
Total Petroleum Hydrocarbons	FL-PRO									7	Consult Lab	Consult Lab
RCRA Metals (8)	EPA Various									6	Consult Lab	Consult Lab
TCLP Metals (8) w/extraction	EPA SW-846									10	Consult Lab	Consult Lab
Lead (Pb) only	EPA 239.2	X	BA							1	250ml/4 oz.	HNO ₃ /None
Other:												

Comments:

Relinquished by:

Shirley S. Anderson
 Date/Time: 9-19-97 1705

Received by:

Greg Campbell
 Date/Time: 9/19/97 1105